

A large, ancient baobab tree with a thick, textured trunk and sparse, dry leaves stands in a savanna landscape under a clear blue sky. The tree's trunk is covered in a network of cracks and scars, and its branches are bare and gnarled. The ground is covered in dry, brownish grass and small shrubs.

MADAGASCAR

Madagascar is the fourth largest island in the world, covering almost 600 000 square kilometres and supporting some 13.5 million people.

The island separated from the African mainland at least 120 million years ago and, since that time, evolution has shaped a spectacular and unique array of plant and animal species.

The majority of these are found nowhere else in the world, making Madagascar one of the most important treasure troves of biodiversity on the planet. For example, every single species of primate is endemic, and only Brazil and Indonesia can boast more species.

Even among the birds, perhaps the most prodigious travellers of all the vertebrates, more than 50 per cent of Madagascar's 200 resident species are found nowhere else.

The first humans arrived on Madagascar as recently as 2 000 years ago.

But in this short time they have had a major impact on the island's landscapes, primarily through the use of fire that has transformed many of the original forests into grasslands, and this continues today.

Until the 17th century, before they were hunted to extinction, giant Elephant Birds, some weighing as much as 500 kilograms, roamed the landscape.

In the past 100 years, however, there has only been one confirmed bird extinction, that of the Snail-eating Coua Coua delalandei.

Today, 22 per cent of Madagascar's birds – almost all forest or wetland species – are listed as Red Data Book species.

The true wealth of Madagascar's wildlife is still not fully known – new species of lemurs have been discovered in the past 15 years and a new species of warbler was described to science as recently as 1995. Some species have doubtless dwindled to extinction without their existence ever being known.

Despite these ominous conservation overtones, the island's remaining natural habitats, from the lowland rainforests of the north-east to the arid woodland and thorn scrub of the south-east, are breathtaking. So too are the birds and animals that inhabit them. The photographs and articles in this issue of Africa – Birds & Birding should tempt any naturalist who has not yet done so to experience the uniqueness of this biological wonderland, so close to Africa yet so utterly different.

Bottle baobabs, Ifaty forest, south-west Madagascar.

NICK GARBUTT



MADAGASCAR'S GROUND ROLLERS

JEWELS AMONG THE SHADOWS

TEXT AND PHOTOGRAPHS BY NICK GARBUTT

Much as I like birds and thoroughly enjoy birdwatching, I could never really describe myself as a 'birdy' person.

The prospect of catching a glimpse of a 'crested this' or 'yellow-breasted that' just isn't sufficient incentive to abandon a warm bed before dawn. Mammals are altogether different: I'll bolt from beneath the blankets at the slightest inkling of seeing a tiger in India, an aardvark in Africa or indri in Madagascar.

However, one group of birds from my favourite island, Madagascar, has captivated me like no other – effectively becoming 'honorary mammals'. And just like mammals, the ground rollers (family Brachypteraciidae) are frustratingly furtive, shy, skulking and elusive.

The Long-tailed Ground Roller occurs in spiny forest, the only member of the family not found in rainforest areas.



The smallest of the ground rollers, the Rufous-headed Ground Roller is a secretive and little-known species.

I had visited Madagascar several times before I saw my first ground roller, although to be fair I hadn't really been looking, preferring to concentrate my efforts towards mammals and reptiles. It happened during a morning walk in the rainforests of Ranomafana. I heard a strange, almost haunting call coming from the depths of a dense patch of undergrowth and I couldn't resist investigating. After several minutes grubbing around fruitlessly on the forest floor, I concluded my ears were playing tricks on me. Abandoning my efforts, I stood up and by chance looked into some branches just above me, straight at a Pitta-like Ground Roller. I was bowled over. Perhaps it was the glorious contrast between the dark recesses of the rainforests and the stunning plumage of this avian gem, but never before had a bird made such

an instant and unforgettable impression. It continued to call, each time repeating the movements of someone retching thin air, yet at the same time seemingly throwing its voice. A clever trick – I remained convinced the sound was coming from a completely different direction.

Buoyed and enthused by the experience, I began to seek out ground rollers more often, although it took two more years before I notched up all five species. Being a photographer, I soon realised seeing them was simply not enough: there was still an itch to scratch – I had to try and capture them on film. Having taken so long simply to see them, I knew this would be difficult. In fact it turned into one of the sternest photographic challenges I've set myself and one that has occupied my attention for the past three years.

My first stop was Ifaty on the south-west coast. Here, in the 'other-worldly' habitat that is Madagascar's spiny forest, lives the Long-tailed Ground Roller. Its entire population is confined to a strip of this forest no more than 150 kilometres north to south and 40 kilometres east to west. Spiny forest is more open than rainforest, so I assumed this would be the easiest species to photograph. Finding a nest burrow was obviously the key to locating the birds, but inevitably nests were in the heart of a thicket where clear views were impossible, so I decided to stake out the more open adjacent areas. Long-tailed Ground Rollers forage in the sandy soils and leaf-litter, predominantly in the early morning before it becomes murderously hot. There is also the added bonus of beautiful warm light, so I concentrated my efforts around dawn. Numerous

times the birds skulked around the periphery and remained concealed. My frustration levels grew. But eventually one ran out into the open, paused in a pool of dramatic golden light, and the shot was in the can.

It was immediately obvious the four rainforest species (Short-legged, Scaly, Pitta-like and Rufous-headed) were going to present far more of a challenge. Outside the breeding season, they rarely if ever sing, so are virtually impossible to locate. But between September and December males and females attract one another with typically low, resonant, guttural calls – most often a series of 'whoops', 'boos' and 'co-oo's'!

Mantadia National Park in the heart of the eastern rainforest belt is one of my favourite places in Madagascar. It's also prime ground roller habitat and one of the few places all four rainforest species can be seen (even in a single day if you're very lucky). The understorey is often thick and tangled, with precious few open areas where clear views might be possible. With the invaluable help of renowned local guide and long-time friend Maurice Besoa, the search for nest burrows began. Through experience, Besoa has learned the best areas to target for each species. He's also a dab hand at imitating their calls and pinpointing the birds' responses.

During an early-morning walk looking for lemurs, a surprise encounter with a Short-legged Ground Roller gave me my first chance. The bird behaved impeccably, sitting beautifully out in the open on a well-lit branch calling away to its heart's content; a perfect opportunity. But in the excitement of the moment I bungled it – no tripod, wobbly hands, incorrect exposure. Everything went wrong and the photographs all finished in the bin.

However, Besoa's skill, long searches and perseverance eventually paid dividends with the discovery of a pair of nesting Pitta-like Ground Rollers. From a distance, I watched the birds fly in and out of their nest for several hours over a couple of days. When leaving, they'd emerge from the burrow like a popping champagne cork, but each time the birds returned with selected leaves in their beaks to adorn the nest interior, they'd perch on prominent branches or tree stumps. It soon became clear that some of these perches were regular favourites, so I aimed my lens, pre-focused and crossed my fingers. In the

Right & below *The electric coloration of the Pitta-like Ground Roller provides a sharp contrast to its gloomy forest habitat. The bird on the right is shown leaving its nesting burrow in the ground.*



gloom of the forest, flash was essential but fortunately seemed to have no effect on the birds' behaviour. With time they tolerated me at close quarters, but were still devilishly difficult to keep in the viewfinder. Five days' effort eventually produced six decent pictures.

Scaly and Rufous-headed ground rollers proved far more elusive. My first efforts to find nests were completely fruitless. Any glimpses of birds were always fleeting and the chance of photographs nil. But once again Besoa and his imitations came good. The territory of a pair of Scaly Ground Rollers was found

and although we couldn't pinpoint the nest, our observations suggested that the birds foraged along regular routes. Choosing a likely spot, I set up my gear and waited. It's amazing how quickly 12 hours of splendid isolation in a rainforest can pass. Periodically indri calls echoed all around, a Pygmy Kingfisher flew past in a blur of fiery orange, mixed flocks of vangas and greenbuls passed by and two eastern grey bamboo lemurs sat above me, munching shoots. And three times a Scaly Ground Roller scuttled past – click, click, click – the sweet sound of success. ▶



Above A forest-floor dweller where it spends its time searching the leaf-litter for food, the Scaly Ground Roller seldom takes flight.
Below right The Short-legged Ground Roller is the largest and least terrestrial member of its family.

On my next visit, Besoa took me to the nearby higher montane forests of Maromizaha, a known haunt of the Rufous-headed Ground Roller, and it wasn't long before he got one to reply to his imitations. At first, the bird's calls suggested it was way off in the depths of the forest, but in no time at all the calls seemingly grew ever closer. We peered into the undergrowth, searching every gap between the tangled vegetation. Vague shadows danced across the spaces, a hint of metallic emerald green here and suggestion of russet brown there. Then out the bird hopped, straight on to the trail ahead of us. It was no more than six metres away. My shutter rattled and the bird was gone. I assumed that was that, but Besoa knew the show wasn't over. He

kept up his ventriloquist act and soon the ground roller called again and returned. Much to my satisfaction, this time it stayed on the path a little longer. Another species in the photo bag!

In between these successes, I've continued to search for Short-legged Ground Rollers. I've found them many times, but always high in the canopy, on a distant branch or obscured behind a veil of foliage and I have yet to match that fantastic but frustrating first encounter. Being philosophical, at least it gives me a good reason to return to Madagascar's rainforests and plug that gap. I can't wait for the chance! □



GROUND ROLLERS (FAMILY BRACHYPTERACIIDAE)

The family is endemic to Madagascar and consists of five forest-dwelling species. All are diurnal and largely terrestrial, with large heads, stout beaks, short wings and moderately long to very long tails. Generally only vocal during the breeding season, the birds' repertoire is limited to short, often muffled calls that can be deceptively difficult to locate.

All species nest as solitary pairs in holes excavated in the ground – usually a slope or embankment and often alongside a stream. Nest burrows are up to a metre deep, with the white, near spherical eggs laid in a chamber at the end. Four species are confined to the humid evergreen rainforests of the north and east, while the fifth species is restricted to a small area of arid forest on the south-west coast.

Short-legged Ground Roller *Brachypteracias leptosomus*

The largest and least terrestrial (hence the short legs) member of the family. Prefers lowland rainforest (elevations below 1 000 metres) and is largely solitary, except during the breeding season when often encountered in pairs. Regularly perches on horizontal branches four to five metres but sometimes up to 20 metres above the ground, where it remains motionless for long periods while searching for food. Prey is mainly gleaned from the forest floor, but also from tree trunks and branches and consists of insects, snails, land crabs, other invertebrates and small vertebrates like chameleons, geckos and small snakes.

Voice: The call, issued from concealed branches, is a low, muffled staccato 'booo' repeated approximately three to six times in quick succession. The contact call between breeding pairs is a low, trilling 'krrrr, krrrr, krrrr'.

Best localities: Masoala, Ranomafana and Mantadia national parks.

Scaly Ground Roller *Brachypteracias squamiger*

Perhaps the most terrestrial ground roller, this species also prefers lowland rainforest (elevations below 1 000 metres) with plenty of undergrowth. It forages almost exclusively in leaf-litter for earthworms, insects and small vertebrates like stump-tailed chameleons *Brookesia* spp. Its technique is to search the forest floor, flicking over leaves, before running on a few metres, stopping and searching again. Even when disturbed or startled it rarely takes flight, initially remaining motionless

before scurrying away into undergrowth, sometimes issuing a sharp, harsh alarm call.

Voice: The call is a soft, hollow two-tone 'co-ooo' with an upward inflection, repeated every five to 20 seconds, and generally uttered from a raised area on the forest floor (fallen log or similar) or a low horizontal branch.

Best localities: Masoala and Mantadia national parks.

Pitta-like Ground Roller *Atelornis pittoides*

The most common and widespread member of the family; found throughout the eastern rainforest belt (although patchily distributed) from sea level up to 2 000 metres; also occurs in an isolated remnant rainforest (Mt d'Ambre) in the far north. Normally encountered singly, but occasionally in pairs. Its foraging technique and behaviour when disturbed are much like those of the Scaly Ground Roller, although this species does fly short distances more often. The diet consists mainly of insects like beetles and caterpillars.

Voice: During the breeding season (Oct–Feb), it may sing at all hours of the day, the call being a soft, muffled 'whoop' or 'gwoop', typically repeated every four to 10 seconds.

Best localities: Ranomafana, Mantadia and Montagne d'Ambre national parks.

Rufous-headed Ground Roller *Atelornis crossleyi*

This is the smallest and probably least well known of the ground rollers. It shows a marked preference for undisturbed montane rainforests with a well-developed tangled understorey and

dense layers of leaf-litter; it is rarely encountered below 900 metres and occurs more frequently above 1 200 metres. Secretive and generally found singly, except during the breeding season when often found in pairs. The diet consists mainly of insects and other small invertebrates gleaned from the forest floor.

Voice: Calls only when breeding, a series of clear but solemn hoots, 'woop' or 'whop', typically repeated every three to six seconds with a slight upward inflection. The call is noticeably higher pitched than that of the superficially similar Pitta-like Ground Roller.

Best localities: Maromizaha near Andasibe and Ranomafana National Park (Vohiparara).

Long-tailed Ground Roller *Uratelornis chimaera*

The only family member to occur outside rainforest areas, this species is restricted to a strip of sub-arid spiny forest between sea level and 100 metres elevation, north of Tuléar in the south-west. Prefers areas with plenty of leaf-litter but sparse herbaceous growth. It can even tolerate slightly degraded areas provided there is shade and the leaf-litter remains. Almost exclusively terrestrial and usually solitary, but encountered in pairs when breeding. Often cocks its tail when alarmed and runs quickly to escape if disturbed. Feeds mainly by probing into sandy soil and leaf-litter for insects.

Voice: Seldom heard. The call is typically a series of quiet, muffled 'took, took, took' notes on a descending scale.

Best localities: Ifaty and Lac Ihotry. □