



# HERDING CATS

Jaguars, the 'ninjas' of the feline world, are under threat from farmers, poachers and now the Chinese black market in their teeth and bones. Can a new

breed of tourism that involves tracking, tracing and identifying the animals help save them? Words and photographs by David Higgs



At the far end of the lagoon the sun is setting behind a towering, knotted fig tree. An hour ago we briefly saw Fera, a three-year-old female jaguar, climbing high along its thick branches before lying down behind dense foliage – the perfect vantage point from which to look over the still green water, seeing but unseen. Only her tail dangled, twitching with anticipation. A few minutes later she descended, a fleeting silhouette against the sky, leapt to the ground and was gone.

Sitting in our yellow jaguar-spotted four-by-four, holding a VHF receiver, we listen intently to the sonar-like ‘tock... tock... tock’ of her radio collar and speculate on her location and next move. A few feet ahead a family of half a dozen capybaras, a semi-aquatic giant South American relative of the guinea pig, are grazing at the edge of the lagoon. Any one of them would be a perfect meal for Fera.

We have been following her for hours, through forest, over grassland and along rutted tracks. She is one of twin orphan cubs, raised in captivity but successfully rehabilitated and released, over a year ago, into the wilds of the 200-square-mile Caiman Ecological Refuge. Now she and her sister, Isa, are thriving. It is a significant achievement and a ‘world first’ for the jaguar-conservation group Projeto Onçafari.

*Onça* (pronounced ‘onsa’) is the Portuguese word for jaguar, an historical reference to a gold coin that weighed about an ounce. The golden cat’s scientific name is *Panthera onca*. So, the project’s name is a Portuguese-English play on words pronounced ‘onsa-fari’ and highlights the role of ecotourism in its conservation model.

Using our directional aerial and listening to the rising pitch of signals from Fera’s collar, we can ascertain her direction and distance, but she is behaving peculiarly. Often we hear her making a distinctive call. Once she even crosses our path, seemingly oblivious, grunting and roaring. ‘I

think she’s calling for a mate,’ suggests my guide, Onçafari field biologist Carlos Eduardo Fragoso.

With our minds focused on predicting Fera’s next move and hunting strategy, it is easy to be distracted from the cacophony all around. Three-foot-long bright-blue hyacinth macaws, the world’s largest parrot, fly formation sorties in pairs and triplets above our heads, intent on family squabbles. Flurries of smaller blue-fronted parrots emerge from the trees surrounding the lagoon with astonished cries of, ‘Real? Real? Real?’ Beyond, rival flocks of chachalaca birds burst into competitive squawking. Just ahead, in the shallows, bubble-eyed caimans, a relative of the alligator, slowly drift, waiting.

Then we see her. Beneath the gloom of an overhanging branch, perfectly camouflaged against dry leaves on the bank, she steps silently into the

**Lying on her back she fixes us  
with a penetrating stare as if to say,  
‘Yes, I am gorgeous, aren’t I?’**

water and begins to swim towards us. For such a massive cat there’s not a splash, not a ripple. Only her eyes, ears and tail protrude above the surface. Jaguars love water, and it disguises their scent from prey if they approach from upwind.

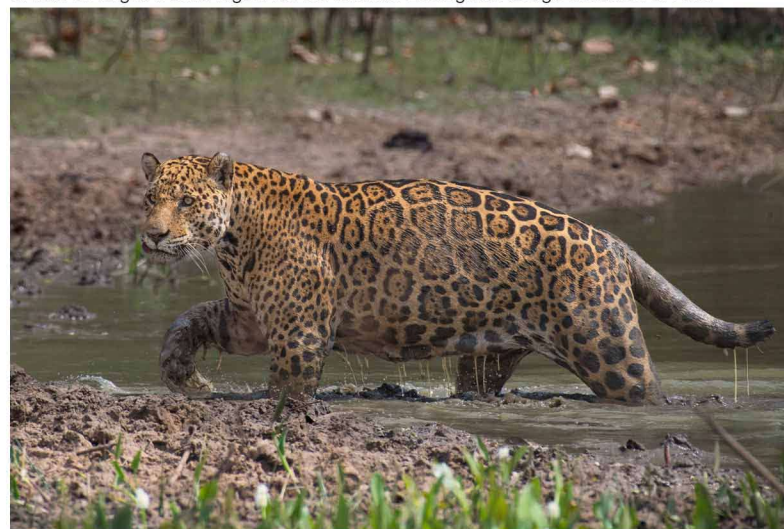
Halfway across now... she is closing the distance to the capybaras. Even her tail has dropped below the surface. Suddenly, violent snorts of alarm erupt, echoing around this natural amphitheatre. She has been spotted, the ambush is blown – but still she swims towards us, gathering pace. Then she bursts from the water, shedding spray and glistening, charges across the grass, flops down and rolls as if she hasn’t a care in the world. Lying on her back she fixes us with a penetrating stare as if to say, ‘Yes, I am gorgeous, aren’t I?’ Then she lopes into the surrounding scrub, lit by flickering fireflies.

We’re in Brazil, in the heart of the Pantanal, about 160 miles east of the border with Paraguay and Bolivia. It’s late September, approaching the end of the dry season. At Caiman it’s blisteringly hot and the land is baked hard. Just a few large lagoons still hold significant amounts of water. At this time of year it is hard to believe that the Pantanal is the world’s largest wetland system, covering about 80,000 square miles, almost the size of England and Scotland combined. When the wet season hits in a few weeks’ time, 80 per cent of this region will be transformed into a vast, shallow, inland sea peppered with islands of forest.

Rarely seen, shadowy, shy and mysterious, scientists consider the South American jaguar to be the ‘ninja’ of the three largest big-cat species. The least understood, it’s thought unpredictable and untameable. Yet its secretive nature has enabled it to survive almost 300 years of conflict with livestock farmers. The Pantanal is an important ranching region, stocked with millions of cattle. Paradoxically, it is also one of the jaguar’s last strongholds, home to some of the largest ever recorded.

In the past 50 years, as destruction and fragmentation have more than halved its natural habitat, jaguar numbers have shrunk over its historic range, which extended from the southern United States to Argentina. Poisoned, shot, trapped and pursued by hunters’ dogs, it is so elusive that no one has reliable population data. Dr Alan Rabinowitz, a jaguar expert and chief science officer of the cat-conservation group Panthera, thinks the number could be as high as 30,000, while the WWF estimates fewer than 16,000 survive. The IUCN (International Union for Conservation of Nature) designation for the species is ‘near threatened’. Other studies have classified the jaguar as ‘endangered’ or ‘critically endangered’ in Brazil and Argentina. Now a new threat is emerging. As the availability of tiger body parts declines, due to

Brutus emerges from a lagoon at the Caiman Ecological Refuge in search of Fera



Fera bursts out of the water after attempting to ambush a group of capybaras





their increasing rarity, there are worrying signs that jaguar poaching is providing an alternative source of teeth, claws, bones and meat for the Chinese market.

**T**wo days after our bizarre encounter with Fera, our suspicions are confirmed.

We find her with a 12-year-old male, Brutus, lying in the shade of some lakeside palm trees. Beside them are the remains of a large caiman. As his name might imply, Brutus is a bit of a thug, with looks to match. He's barrel-chested and enormous at about 265lb – the largest male jaguars can reach the size of an average African lioness – though on Caiman there are much bigger cats. He's had lots of fights and has lost part of his tail and an ear. His face is scarred and he's sporting a freshly split lip.

During the four to five days of oestrus, jaguars can mate 30 to 40 times a day, mostly at night when it is cooler. From 100 yards away we hear Fera purr. Today, as most days, she is being a minx.

As soon as Brutus drifts into post-coital bliss, she sneaks off and, skirting the edge of the lagoon, is soon out of sight. Minutes later Brutus wakes and starts to his feet. Realising that Fera has given him the slip, he heads off in hot pursuit, looking for her. After 50 yards he stops, sniffs the air and listens intently, every sinew taut with testosterone-fuelled anxiety. She is lying in the shade on the opposite side of the lake. Impulsive and reckless, he doesn't wait to follow her path. With a running jump he plunges into the water. Brutus's entire body disappears beneath a massive, muddy bow wave as he surges across the lake, emerging on the other side like a character from a romantic

novel, dripping and muscular, to be by her side.

How, you might ask, given the reputation of jaguars for secrecy, have we been privy to days of such close observation? Inspired by big-cat ecotourism specialists such as South Africa's Londolozi Game Reserve, Onçafari has taken wildlife 'habituation' techniques and applied them to jaguars so they will tolerate the approach of vehicles. Mario Haberfeld, one of the project's founders, says, 'It was much quicker than we expected, but there was a lot of hard work. Finding them was the hardest part.' Caiman has a population of more than 100 jaguars but when the project began six years ago they were rarely seen. 'Now these cats

### **Jaguar kills are distinctive. Pound for pound they have the most powerful bite of any big cat**

are relaxed, we see them often, follow generations and are beginning to understand a lot more about their behaviour.' The team also discovered an unexpected consequence: when habituated females have cubs, those cubs also become unafraid of vehicles. 'Actually,' says Haberfeld, 'they end up being more habituated than the mother because they've seen it from a very young age.'

In just six years Caiman has nurtured at least three generations of jaguars, and possibly four, subject to DNA confirmation. Using a combination of field observations and 75 camera 'traps' (remote cameras triggered by body heat and movement), Onçafari has, so far, identified and named at least 109 jaguars. Every one has a unique skin pattern

of rosettes, so photographic records are vital for reidentification and building a comprehensive picture of behaviour and relationships.

This year it is expected that at least 95 per cent of Caiman's guests will see a jaguar. It is hoped that the success of Projeto Onçafari will inspire others; and prove to ranchers that cattle and jaguars can coexist, and that, despite stock losses, the potential for ecotourism can mean these predators are worth more alive than dead. Though some are coming round to the idea, the fact is, for ranchers unwilling or unable to invest in tourism infrastructure, or set aside land for the benefit of wildlife, there is no advantage to prowling jaguars.

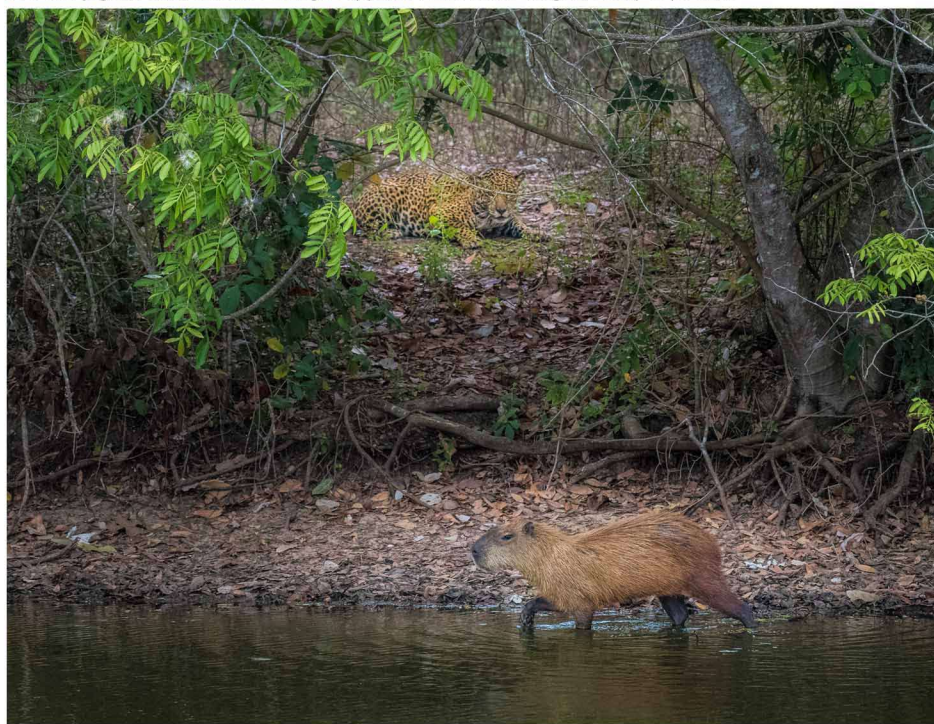
With its cast of extraordinary characters, incredible scenery and impeccable lighting, every day at Caiman is like being on the set of some exotic soap opera. 'You never know what to expect,' says Onçafari research coordinator Elaine Lilian Rampim, who has worked with lions, tigers, cheetahs, pumas and leopards. 'You can't compare jaguars with any other kind of cat. They are completely different. Much more individual, unpredictable.' Dr Alan Rabinowitz agrees: 'You never know what a jaguar is thinking. No other big cat uses the three-dimensional environment – land, trees and water – like a jaguar. There's something distinct about the species. It's not just its power. It's something to do with its behaviours – its inner self.'

Never is this more evident than during Caiman's capture sessions, which happen three to four times a year. My time at Caiman has been scheduled to coincide with a visit from Joares May Jr, professor of veterinary epidemiology, ecology and wildlife medicine at the University of Southern Santa Catarina. He is Onçafari's specialist veterinarian, tasked with periodic jaguar captures for fitting and replacing radio collars, collection of data (blood, urine, faeces, hair, parasites and biometrics) and health checks. The radio collars get damaged by heat and social interaction and are designed to fall off after 12 months. Each costs about £3,600, weighs less than 30oz and can transmit hourly data including details of location, activity, temperature and even mortality.

Since 2008 May has captured 65 jaguars in the wild. The ideal scenario is to place snares at a recent jaguar kill. We don't have long to wait. News comes that during the night Nusa, an iconic four-and-a-half-year-old female and formidable mother, has killed a Nelore bull barely a mile from our accommodation. Jaguar kills are distinctive. Pound for pound they have the most powerful bite of any big cat. They kill by biting through the skull of their prey or severing the spinal cord.

The next day, May and the Onçafari team prepare the site, placing and 'camouflaging' four snares. Subtle obstacles and guides in the form of bushes and branches are placed to funnel the jaguar towards the kill. Jaguars prefer soft ground, so the paths over the snares are carefully smoothed. Finally, long stakes of thick steel rebar are driven into the ground to secure the carcass. (When suspicious, jaguars are apt to remove a kill to a more convenient location.) The snares themselves are ingenious, designed to catch a leg or paw. A spring-

Another jaguar, Gaia, watches a large capybara while camouflaged, ready to pounce





loaded ‘thrower’ placed under a thick foam pad is tripped by the weight of the cat and flings the loop of the snare, made of plastic-sheathed steel cable, up the leg of the animal. As the jaguar pulls its leg back, the loop tightens. The snare itself is also spring-loaded to absorb any shock and prevent injury. Meanwhile, as the snare is deployed, a nylon line is pulled and triggers a radio transmitter, notifying the capture team waiting on standby.

In the early hours we receive the trap’s signal. We approach the site in total darkness but are quickly aware that several jaguars are in the vicinity. All around we hear roaring. The atmosphere is eerie and intense. May is driven alone to the kill, armed with a dart gun. In the glare of our headlights we see Juju, Nusa’s 10-month-old cub, looking rather forlorn, her foreleg gripped by the snare.

Nusa, possibly along with other jaguars, is somewhere just beyond our spotlight. From 10 yards May fires a tranquilising dart. Juju is soon asleep, but she’s given a top-up of sedative by hand before being blindfolded and loaded into our truck.

We make a hasty retreat to a location at a safe distance. Juju’s growth will be monitored over time, so biometrics and samples are taken. Then, finally, she is weighed – a very healthy 112lb. No collar is fitted because she is too young and still growing. As the sedative begins to wear off, the cub is placed in a safe location and observed until she is fully recovered. Soon Nusa will call and mother and cub will be reunited. Later we learn that in our absence Esperança (‘hope’), an 11-year-old female, has neatly pulled the carcass off the stakes and moved it to safer ground to enjoy her meal. We know never to underestimate the power or the wits of these awesome carnivores.

Cattle killing is an extremely contentious subject, especially in the Pantanal, where most of the land is privately owned, and ranching is an economic mainstay and an integral part of the region’s identity and culture. As habitat has

been converted to pastureland and the availability of natural prey has dwindled, the jaguar has turned to cattle. For generations of the Pantanal’s ranchers, the jaguar has been their sworn enemy.

By contrast, Caiman’s owner, Brazilian industrialist Roberto Klabin, has done much to coax jaguars out of the shadows. Hunting has not been allowed on his property for more than 30 years and dogs are banned. As a result, wildlife here is profuse and varied. The jaguar’s prey base of pecaries, capybaras, deer and caimans, is thriving. It is surprising, then, to realise that this ecological refuge is, in fact, a working ranch with more than 35,000 cattle. Last year 219 cows were killed by jaguars on the property. Elsewhere such a death toll would have been met with swift retribution.

Projeto Onçafari’s Mario Haberfeld is relaxed about the statistics. ‘OK, we’re losing less than

### **I’m drawn into the jaguars’ private lives. ‘What is Nusa doing? Is Fera pregnant? I hope Brutus is safe’**

one per cent because of jaguars,’ he says philosophically. ‘It’s honestly not a problem. The one night that a guest stays here buys three cows or more. It’s bad for the cattle ranching but good for the ecotourism.’

Life for any big carnivore is tough and fraught with risk, not least in the Pantanal. Jaguars may need to travel great distances to secure a meal or find a mate. Research suggests that on Caiman, typically most of the females are permanent residents with overlapping territories, travelling an average of five miles a day. By contrast, many of the males are transient. Brutus is known to wander nearly 10 miles daily and some may go much further.

It has been illegal to hunt jaguars in Brazil since 1967, but the killing continues, in secret. ‘People here couldn’t care less,’ says Klabin. ‘Now-

adays they poison carcasses that jaguars kill. Then they burn the animal and that’s it.’ Onçafari knows that ‘its’ jaguars, particularly males, sometimes followed by females, go on to other ranchers’ land. It is a source of friction with some neighbours. Klabin has even been accused of ‘breeding’ jaguars. ‘We are always worried when they leave the farm,’ says Elaine Lilian Rampim.

Onçafari’s field biologists spend many of their daylight hours, and some in darkness, seven days a week, tracking jaguars and documenting their behaviour. They have opened remarkable windows into the intimate lives of these little-understood big cats.

It was Dame Jane Goodall, the world-famous primatologist, who was first drawn to name the animals she studied. It sparked fierce criticism from the scientific establishment and accusations of anthropomorphism. But naming also has curious advantages, enabling an appreciation of more subtle qualities of interaction and behaviour at an individual level.

Most of the Onçafari staff admit they do their work out of love. Day by day I, too, find myself slowly and irresistibly drawn into the jaguars’ private lives and adventures. After only a brief absence from the field I find myself wondering, ‘What is Nusa doing today? Is Fera pregnant? I hope Brutus is safe.’

Over one 21-day period of intensive fieldwork, I have had at least 62 encounters with 13 different wild jaguars. Each has acquired a presence and personality linked to a name. In the past I’ve worked with tigers, lions and leopards, but my relationship with these cats is different, it’s personal. I can see how easily it becomes a love affair. *To learn more about Projeto Onçafari, visit [projetooncafari.com.br/en/](http://projetooncafari.com.br/en/). To adopt a jaguar or make a donation, go to [projetooncafari.com.br/ajudee.html](http://projetooncafari.com.br/ajudee.html). For details of how to support Onçafari’s latest jaguar orphan rewilding project, visit [gofundme.com/oncafari](http://gofundme.com/oncafari)*

Field biologist Carlos Eduardo Fragoso tracks jaguars by their radio collars and footprints



Veterinarian Joares May Jr and Projeto Onçafari’s scientific team collect data from Juju

