

Photos by SANDESH KADUR

CLOUD PLEASERS

Two orphaned clouded leopard cubs rescued in India offer a unique insight into the lives of these elusive felines.

STUART BLACKMAN finds out more.

The adoptive human parents of Runaa and Khota knew when it was time to release them back into the wild. The twins had just killed a stray dog unlucky enough to cross their path in the forest reserve that had been their home for 18 months. A dog might not be the cubs' most natural prey, but it was a far sterner test of their predatory skills than the chickens on which they had been trained. And what is a big cat without predatory skills?

Not that Runaa and Khota are particularly large – they're midway in size between a tabby and a tiger. Yet they *are* big cats, sharing an elite branch of the evolutionary tree with tigers, lions, leopards, jaguars and snow leopards, with which they are placed in the subfamily Pantherinae.

But while the closest relatives of clouded leopards are staples of wildlife TV documentaries and magazine covers – even the snow leopard is now giving up its secrets – this species remains defiantly camera-shy.

STEALTH CATS

"Clouded leopards are nocturnal, arboreal, secretive and solitary," says Indian wildlife photographer Sandesh Kadur, who took the extraordinary images on these pages. "No film has ever been made about them in the wild."

Sandesh should know. He's been scouring the remotest forests of north-east India for clouded leopards for the past three years. "I'm pretty sure that I've been spotted by them," he says. "But I haven't been fortunate enough to spot one back. I've found pug marks and scat – that's all."

He's in good company. Zoologists working on clouded leopards aren't guaranteed a sighting either. "Even people working extensively in the field seldom glimpse their feline study subjects," admits Andy Hearn, who runs Oxford University's Bornean Clouded Leopard Programme. And the veteran conservationist George Schaller hasn't had ▶

Runaa and Khota explore their forest surroundings. At first, Wildlife Trust for India staff rehabilitating the cubs kept the inquisitive orphans on long leads.



Runaa and Khota were weak, frightened little balls of fur when they arrived at the WTI's wildlife rescue centre.



Sandesh films the cubs – by now allowed off-lead – as they practise climbing trees.



No one had attempted to return orphaned clouded leopard cubs to the wild before, so the process was mostly trial and error.



The clouded leopard's exquisite markings fuel a lucrative black market in its fur. In 1995, for example, researchers found 95 pelts for sale at Myanmar's Tachilek wildlife market.

PHOTOS BY

SANDESH KADUR couldn't believe his luck when he heard about the orphaned cubs. He is one of India's leading wildlife photographers; find out more at www.sandeshkadur.com

much more luck. "In all my wandering in clouded leopard country," he says, "I've come across just one in the wild, sitting on a trail in a forest in Laos."

So when Sandesh heard that the Wildlife Trust of India (WTI) was planning to rehabilitate a pair of orphaned clouded leopard cubs, he saw an unmissable opportunity.

BROTHERS IN ARMS

Superficially, clouded leopards look like small leopards. Their spots are much larger, however – not unlike those of giraffes, but with a pale interior dotted with smaller spots. They're more like clouds than spots, hence the name.

Other tell-tale features include an unusually long tail, used for balance when climbing, and the longest canine teeth in relation to skull size of all big cats (almost as large as in tigers). Their gape is also wider than that of any other big cat – 100 degrees, compared with 65 degrees in lions.

Why clouded leopards have such an impressive gape and dentition is not known, since their typical feeding

behaviour (observed in captivity) is much the same as in other big cats. That is, prey is despatched by latching onto the throat and holding it to the point of suffocation.

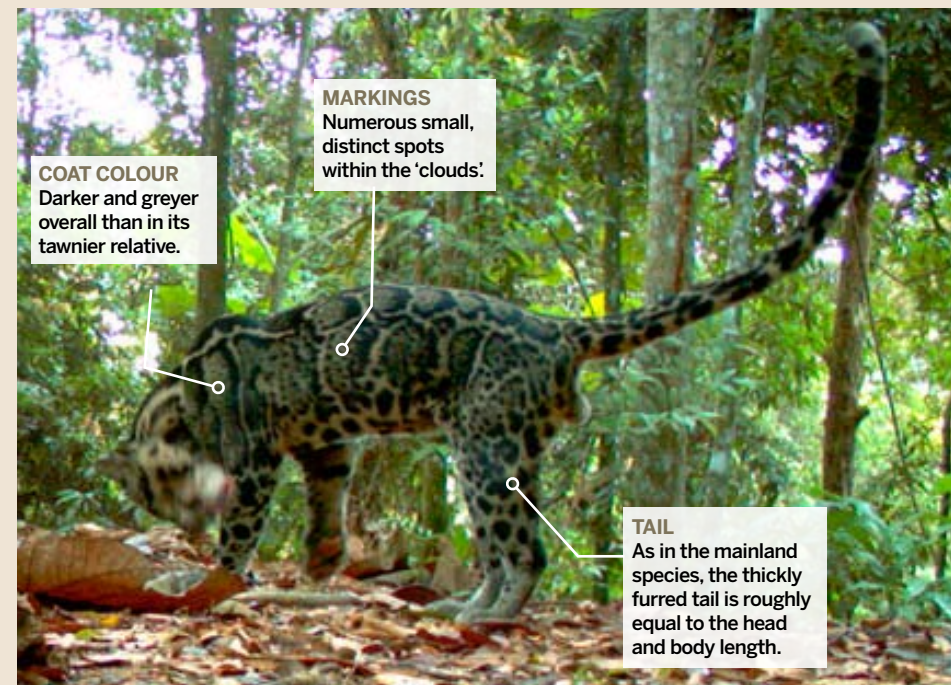
Nevertheless, the two little balls of fur that tumbled out of a hole in a tree felled by woodcutters near India's border with Bhutan mystified their finders. The workers thought that they were leopards or tigers, and took the cubs home to sell. But word reached forest officials, who confiscated them and handed them to the WTI's Center for Wildlife Rescue on the outskirts of Kokrajhar city.

Only then were the cubs identified as male clouded leopards. Just a few days old, their eyes hadn't yet opened. They were weak, but under the care of WTI vets, day-to-day survival became week-to-week, then month-to-month.

Staff christened the pair Runaa and Khota. Despite their wild origins, the cubs were affectionate, craving human attention like more conventional pet kittens. They were mischievous, too, playing with one another and with their food as they exercised their rapidly growing muscles.

When the twins were five months old, the vets decided to risk something never attempted before. Rather than send the feisty felines to a zoo, they would train them for release into the wild. Sandesh was out of the country when he heard about the plan. "I dropped everything and rushed straight back to India to document the process."

DESPITE THEIR WILD ORIGINS, THE CUBS WERE AFFECTIONATE, CRAVING ATTENTION LIKE MORE CONVENTIONAL PET KITTENS.



COAT COLOUR Darker and greyer overall than in its tawnier relative.

MARKINGS Numerous small, distinct spots within the 'clouds'.

TAIL As in the mainland species, the thickly furred tail is roughly equal to the head and body length.

TWO OF A KIND MEET THE SUNDA CLOUDED LEOPARD

In 2006, the clouded leopards found on Borneo and Sumatra were shown to be sufficiently different from those elsewhere in South-east Asia to merit classification as a separate species. Though the two forms may look similar, genetically they are as different from each other as lions and tigers.

The island species, known as the Sunda or Diard's clouded leopard, has smaller cloud markings with numerous spots inside many of them, and tends to be greyer and darker. It is the largest carnivore on Borneo, where it has been seen to prey on proboscis monkeys. Like its mainland counterpart, the species is vulnerable and threatened by habitat loss and fragmentation.

It wasn't long before the rehabilitated cubs began 'hunting' golden langurs – or, at least, chasing the poor monkeys from tree to tree.



Runaa and Khota were accommodated in tree-house cages, from where their carers took them on walks to accustom them to the sights and sounds of the forest. At first the cubs were kept on leashes to prevent them disappearing. But the instant they were allowed 'off-lead', their tree-climbing instincts took over.

"The cubs raced 30m straight up a tree trunk," says Sandesh. "We were worried they couldn't get down again." But the local fire brigade wasn't needed: unlike other cats, clouded leopards have hind feet that can swivel backwards, so they descend trees with squirrel-like ease.

To begin with, the cubs were trained to hunt domestic fowl, but when they finished off the unfortunate dog it was clear that no more hunting lessons were needed. The brothers dragged its carcass high into a tree to eat. Shortly afterwards, in May 2010, they were fitted with white radio-collars and let off their leashes for the last time. The cats were tracked for several weeks, until floods and tree-falls caused by the monsoon forced their carers to give up.

SPLIT DECISION

So little is known about clouded leopards that we didn't realise that there were two species until 2006 (see box, p67). Andrew Kitchener, Curator of Vertebrates at National Museums Scotland, whose research on the coat patterns of different populations was central to that discovery, says that there is an urgent need for more information about almost every aspect of these cats' biology.

"Southern Asia's forests are disappearing rapidly, so basic data about habitat usage, prey, home-range size and population density is desperately needed for both species of clouded leopard," Kitchener explains.

Conservationists must tackle two key issues. "We need to identify dispersal corridors for clouded leopards in an increasingly fragmented landscape." Hearn says. "And we need to protect and enhance these dispersal routes."

Rampant deforestation is not the only threat to clouded leopards: poaching and the illegal sale of their skins and bones also take a heavy toll. Despite the fact that both species are listed on Appendix 1 of CITES, which bans all trade in wild-caught specimens, the cats' skulls and jawbones are used to decorate tribal swords and trinkets offered to tourists. These macabre souvenirs are sold openly in Government-run handicraft shops.



Evergreen forests in the Himalayan foothills are a clouded leopard stronghold, but even here the cats are hard to find.



The pelt of an adult clouded leopard hangs up to dry in the kitchen of a Naga tribesman, near the Indo-Myanmar border.

BIG CAT, SMALL CAT WHICH IS WHICH?

There are several definitions of 'big' and 'small' cats, based on different criteria.

SIZE

Nine species – the lion, tiger, leopard, jaguar, snow leopard, cheetah, mountain lion (puma) and the two clouded leopards – are often grouped together as big cats on the basis of relatively large size. The qualifying size is arbitrary, however: a Eurasian lynx can be much heavier than a clouded leopard.

ROARING

Only members of the genus *Panthera* (the lion, tiger, leopard and jaguar) can roar, due to the elongated, flexible structure of their larynx, the walls of which vibrate as air streams through it.

HYOID BONE

Most felines have a bony, rigid hyoid bone in the larynx. But in the cheetah, snow leopard and *Panthera* cats, the hyoid is only partially ossified (it is mostly flexible cartilage). This has led

some authorities to group these species together as big cats.

GENETICS

Recent studies show that, genetically speaking, the lion, tiger, leopard, jaguar, snow leopard and the two clouded leopards comprise a single group: the subfamily Pantherinae. This split from the subfamily Felinae, which contains all other cats, about 10 million years ago.



Clouded leopards cannot roar, but their size, genetic make-up and possession of a hyoid bone qualify them as big cats.



Clouded leopards are the most arboreal of all big cats. They have broad, soft feet for leaping, very long tails for balance and hind ankles that roll outwards when descending trees headfirst.

FACT FILE

CLOUDED LEOPARD

Neofelis nebulosa



► WEIGHT

Male: 16–18 kg; female: 11.5–13.5kg.

► LENGTH

Head and body: 69–107cm; tail: 61–84cm.

► ID TIPS

Stocky, medium-sized cat, with short legs and a very long tail. Coat is patterned with cloud-like splotches.

► DIET

Takes both arboreal and terrestrial prey, including small deer, bearded pigs, monkeys, porcupines, palm

civets, squirrels and birds.

► LIFE-CYCLE

Female gives birth to 1–5 cubs (usually 2 or 3) after a gestation period of 88–95 days. Young are sexually mature at 20–30 months.

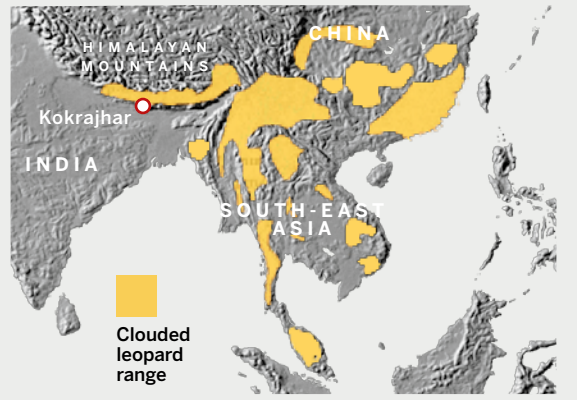
► HABITAT

Primary rainforest; found at up to 2,500m in Himalayas.

► STATUS

Vulnerable; wild population thought to be no more than 10,000 adults.

WHERE IN THE WORLD



HUNTING GHOSTS

WTI researchers began tracking Runaa and Khota again in October 2010, after the rains had subsided and the roads in the forested Himalayan foothills were passable once more. But it was dangerous work: political unrest in the region had brought with it the risk of ambush and kidnap by insurgents. Tracking efforts were erratic, and eventually had to be suspended altogether.

THE CAMERA TRAPS SNAPPED LEOPARDS, ELEPHANTS AND POACHERS, BUT NO CLOUDED LEOPARDS. THEN CAME A RELIABLE SIGHTING.

In June 2011, nearly 13 months after Runaa and Khota's release, WTI staff finally judged it safe enough to renew the search for evidence that the twins had survived their first year in the wild. Sandesh joined the quest.

The odds were stacked against the team. "It was a bit like hunting ghosts," says Sandesh. Khota's radio-collar had failed already, and the battery in Runaa's was by now very feeble. (Even when functioning properly, the devices' signals were detectable only 450m away. In dense forest where travel is difficult and visibility poor, that's

hardly anything.) Moreover, safety precautions were still necessary: "Wherever we went, we were surrounded by 25 guards armed with AK47s," Sandesh reveals.

Happily, traditional 'eyes-to-the-ground' tracking techniques turned up fresh pug marks, scats and tell-tale scratches on trees. And then two local Bodo men reported seeing a clouded leopard near their village.

The team set camera traps and tried baiting with a liberal spray of Calvin Klein aftershave, in case the perfume has the same effect on clouded leopards as it does on jaguars in South America. The traps snapped leopards, elephants and, sadly, poachers, but no clouded leopards. Then, out of nowhere, came the first reliable sighting – a Bhutanese forest official saw a cat wearing a white radio-collar on the Indo-Bhutan border. Runaa, at least, had made it.

There was more good news to come. While the WTI team was tracking Runaa and Khota, another pair of orphaned cubs – females this time – were seized by the forest department and delivered to Kokrajhar veterinary centre. As you read this, Koina and Moyna are about to be fitted with radio-collars ready for release into the forest.

Meanwhile, the world still awaits the first photographs of wild clouded leopards. "It's my Holy Grail," laughs Sandesh. Though the enigmatic feline is a tricky subject, one day, just maybe, he'll pull the cat out of the bag. 🐾