

CEDE PRUDENTE

The low-down on high-level filming

How often do we sit at home in the warmth of our sitting rooms marvelling at the latest wildlife series, usually accompanied by the familiar tones of Sir David Attenborough, and wonder how on earth some of the incredible, often never before witnessed, animal behaviour sequences have been achieved? If the shots are from above, especially in locations invisible to a helicopter or drone, such as dense rainforest or inside a cave, then the chances are the sequence is down to a person possessing a particular combination of skills: high levels of climbing expertise, superb camerawork ability and expert wildlife knowledge. Such a specialist is GTC/IAWF member **James Aldred**, whose own set of skills has enabled many memorable sequences over the last two decades – here he explains some of the challenges and solutions.

Today, perhaps more than ever before in the history of wildlife TV, film crews are expected to deliver increasingly intimate and revealing aspects of animal behaviour. Getting up close and personal with the subject like this can become the defining challenge for any production wishing to break new ground and it is often the environment itself that dictates which technique should be used in order to achieve this.

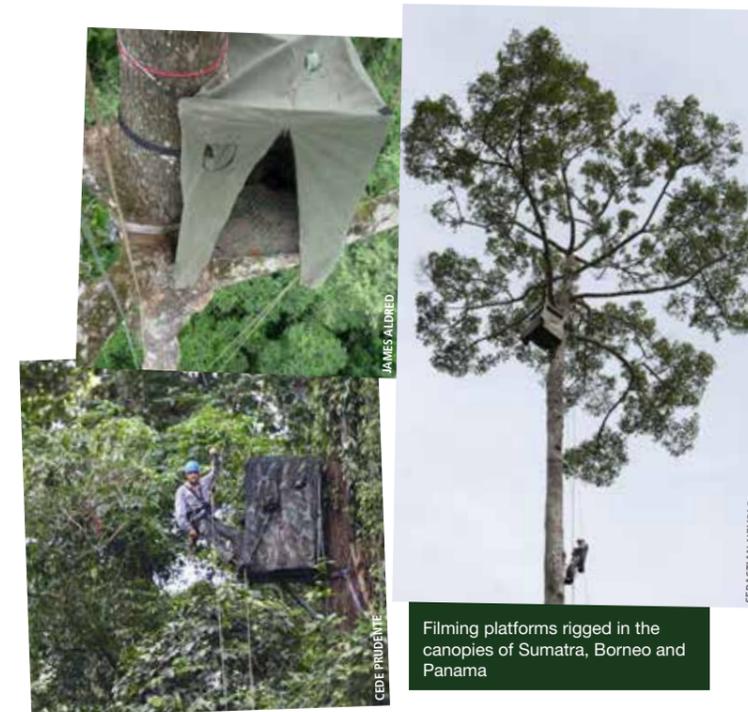
For the last 20 years I have specialised in filming wildlife at height, particularly within the canopy of the world's tropical rainforests, in an attempt to break down the barriers between viewer and animal, and to help reveal behaviour that would normally go unseen from the ground. Because the rainforest canopy is such a hard place for a human to access and move around in efficiently, it pays dividends to employ every trick in the book in order to cover a sequence comprehensively. I'll describe some of the techniques that are regularly employed in a moment; but first a short note on the challenges involved with keeping yourself and your kit safe at height.

Safety first

Whether filming at height in trees or on rock, the cardinal golden rule is always, always to use two points of safety attachment. We all make mistakes when tired and under pressure and this 100% redundancy in the form of always being clipped onto two safety points (be it ropes and/or fixed anchors) is the only way to ensure that a momentary lapse of concentration doesn't lead to a nasty accident. Recreational climbers routinely employ a single point of safety attachment, usually a roped belay. But while they have the luxury of being able to concentrate fully on the process of climbing, a camera operator is also trying to juggle focus, exposure and the myriad other variables their trade requires. A climbing camera operator uses their ropes and climbing skills as an access tool. It is simply a means to an end to help get you into position to do your real job. By utilising two points at all times I know that when the camera begins to roll I can concentrate 100% on what's happening in the viewfinder without fretting about

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Climbing and photography have always gone hand in hand for me and I wouldn't be doing it if I didn't love being at height, particularly in the jungle.



Filming platforms rigged in the canopies of Sumatra, Borneo and Panama

whether or not I've done up my one-and-only karabiner. Safety overrides everything. Everything. But this doesn't mean it can't be fun. Climbing and photography have always gone hand in hand for me and I wouldn't be doing it if I didn't love being at height, particularly in the jungle.

Filming at height technique 1: The long-lens 'stake out'

The backbone of filming wildlife discreetly at height in a forest is the fixed-base elevated platform, often used in conjunction with a camouflaged camera hide. I've been using the same bespoke-made alloy filming platforms as shown in the photos since my time on *Planet Earth* (series 1) back in 2005. These platforms are light (19kg) and compact enough to be flown around the world as excess baggage, then carried to location on foot for long distances over tough terrain and hoisted up into position by one person. They are attached via two or three 5T (tonne) webbing ratchet straps and are quick to install.

These platforms can support up to 200kg, which may sound a lot but can all too easily be exceeded. The days of using an ARRI SR2 film camera with a Canon 2.8 300mm + 1.5x converter on a Ronford Baker head (total weight approximately 20kg) are long gone. The system I currently most often use is a RED Epic plus Canon CN20 Cine Zoom lens (50–1000) on an OConnor 2065 fluid head with heavy-duty Ronford aluminium short legs: total weight 42kg. By the time my own not inconsiderable 100kg has been added to the equation (along with spare batteries, food, water, etc.) it pays to make sure that the tree you install it in is up to the task! The onus is always on finding the largest diameter tree trunk at any given height, with the best possible view of the subject you can find. The perfect tree for a platform is rarely to be found in the perfect location for filming, but generally speaking there are options if you look hard enough.



Preparing to film the world's largest orchid in the Borneo rainforest canopy

RICHARD KIRBY

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The Cam-Ball took everything Arizona could throw at it: storms, 40° heat, sub-zero cold, grit, sleet, even Condor droppings... it just kept on working.

Filming at height technique 2: Remote cameras

As Woody Allen once said: “80% of success is showing up”... or to put it another way: “Time in the field equals results.” Climbing up 200 feet on ropes to get into a hide before daybreak, then sitting perfectly still on a tiny stool for 12 hours before abseiling back down after nightfall is fine for a while; but after a few weeks of this treatment your body starts to rebel (well, mine does anyway). The aches and pains get too much and a break is needed. Just combating climbing fatigue can be a real issue in itself and accidents are more likely to happen when tired. The forest canopy is an unforgiving environment at the best of times.

So this is where remote cameras come in. These are perfect for long-term installations at height, especially in situations where the subject is either too sensitive or too dangerous to be filmed from nearby, or is only appearing once in a while at sporadic intervals.

By far the best option currently available in my opinion is the Cam-Ball range of camera systems, designed and made by Bradley Remote in Hampshire, UK. The Cam-Ball 3 has a 30x optic zoom and can film at up to 1080p. The image is cabled back to the control console via either fibre optic (which gives the best results), or BNC (tougher, lighter and more flexible, not to mention cheaper). This console can be placed a long way from the camera and provides total control over camera pan, tilt, exposure, focus and white balance etc. These cameras can also film under InfraRed (IR) light and be set to automatically toggle between visible and IR when daylight levels become too low for a normal exposure.



Cam-Ball 3 remote camera installed within a Californian Condor nest, 2014

Cam-Balls have played a vital part in filming several tricky sequences at height in the past including an IR sequence featuring forest elephants at night in the Congo that I shot for the BBC series *Africa* (TX 2013). The forest floor was far too dangerous for anyone to be there after nightfall so I retreated to a treetop platform, from where I could remotely operate a network of Cam-Balls to film the elephants moving along the forest trails beneath me.

Inevitably however, one of the main applications for such remote systems at height in the world of natural history is the filming of bird nests. Where the Cam-Ball really came into its own was on a six-month installation inside the nest cave of a Californian condor in the Grand Canyon for *Earth's Natural Wonders* (TX BBC 2015). Having abseiled down the cliff to get into the cave alongside a newly hatched chick, I drilled bolts into the roof and attached the Cam-Ball upside down so that it was hanging in the cave entrance, able to record the chick's lonely 'childhood' and the coming and going of its two enormous parents. The camera was controlled from my hide located 75m away on the clifftop behind some bushes. That camera took everything Arizona could throw at it: storms, 40° heat, sub-zero cold, grit, sleet, even Condor droppings. It just kept on working. I tried hard to break it but I just couldn't! The result was an intimate portrait of something that had never been seen or filmed before.

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Static remote camera positioned on a Griffon Vulture nest, Kenya 2013

Filming at height technique 3: Gyro-stabilised tracking systems

The rainforest canopy is by far the most complex 3D environment on the planet and one of the best ways of conveying this via a 2D film format is to move the camera through it in a smooth and controlled manner. This draws on the pleasing effect of parallax and the illusion of objects in the foreground moving much faster than those in the distance. There is something about this kind of camera move I find spell-binding. It seems to tap into and stimulate our binocular vision in a manner that a fixed camera, or even one being flown at a distance from the subject, cannot possibly hope to replicate. Such moves help to break down the barrier between viewer and subject, and are another extremely useful tool for filming at height. These rigs also help to access the 'open space' that exists between two distant anchor points: the emptiness between, where climbers cannot get.

I've always been a huge fan of these high tracking shots and of devising ways to achieve them. The first rope dollies came on the scene in the world of wildlife TV in the early 90s. Rope was soon replaced with more efficient non-stretch wire cable, and the basic early forms of mechanical dollies eventually morphed into the hi-tech remote-controlled gyro-stabilised rigs seen today.

My favourite system is the cable dolly designed and built by the Moving Picture Hire (MPH) company in Bristol. The MPH dollies (they currently have five available for hire) use a high-torque motor to drive the two-wheeled chassis along a tensioned steel cable. This can reach speeds of approximately 15 miles per hour. But the most impressive thing is its ability

to provide extremely smooth and steady shots at very slow speeds. Obtaining smooth shots at high speed is relatively easy as inertia helps to stabilise wobble, but to achieve the same steadiness at speeds much slower than this can be the real challenge. A 'feathered' remote control unit also helps by providing a smooth ramping of gears during acceleration from a standing start.

The latest generation of MPH cable-cams also incorporate a Ronin, which renders the occasional need to stabilise images in post obsolete. Apart from the obvious ability to pan and tilt the camera, the Ronin also enables an operator to stick with slower frame rates and, even at 25fps, the system is steady (and quiet) enough to use for sync shoots. Also, whereas the old non-powered dollies relied solely on the effects of gravity, the newer remote-controlled models can be driven up fairly steep inclines.

I've used these excellent rigs to film elevated tracking shots in many different environments over the years: from flying over the heads of 80,000 revellers at Glastonbury to providing an orang-utan's view of moving through the Sumatran rainforest canopy (*Terra Mater: South East Asia*, National Geographic, TX 2017). It is an enormously adaptable system and one that can really help to bring an important added dimension to classic long-lens sequences when filming at height.

There are a few safety considerations to be made when using a cable dolly. Firstly, it's very important to ensure that no other machinery/telecommunication equipment in the vicinity is operating on the same radio frequency as the dolly's control unit. Obvious I know – but easy to overlook nonetheless. Secondly, the dolly itself must have a safety attachment to the cable, so that if it becomes derailed (i.e. accidentally hitting the end anchor point) it does not fall off into a gorge/river or onto the heads of people or animals below. And thirdly – very importantly – the actual tensioning of the cable during rigging must be done very carefully with full consideration given to the often scary exponential forces being applied to the cable and anchors should the system



Operating the MPH cable dolly while filming orang-utans in Sumatra, 2015

Installing remote cams on a Harpy Eagle nest in Venezuela to film their chick (pictured) – body armour protects against the parents who, understandably, defend the nest aggressively



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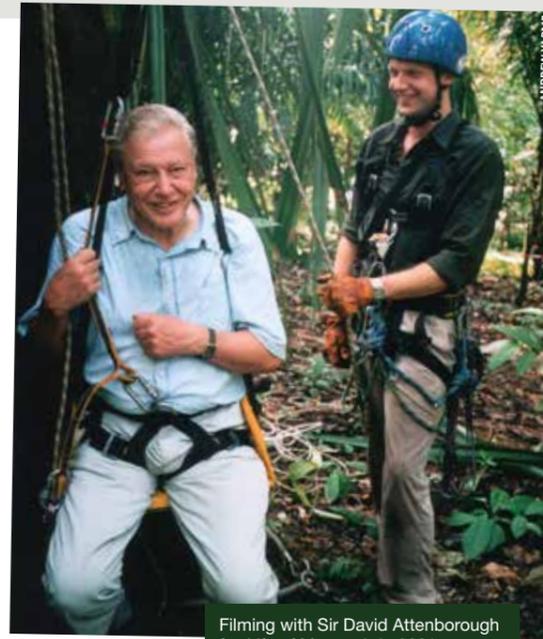
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Always use two points of safety attachment... recreational climbers routinely employ a single point of attachment, but while they have the luxury of being able to concentrate fully on the process of climbing, a camera operator is also trying to juggle focus, exposure and the myriad other variables their trade requires.

be accidentally over-tightened. The use of an in-line load cell is imperative, especially when flying the rig over the heads of people. This way the forces being applied to the anchors and cable can be closely monitored to ensure they do not exceed the equipment's safe working load etc.

This brings us full circle to where we started and the need to maintain scrupulous safety standards throughout all filming-at-height operations. In the first few years of my career I was extremely lucky to work very closely with Sir David Attenborough. His *Life of Mammals* series in particular (BBC TX 2001) required a lot of camera assistance and safety support while filming at height and I was responsible for getting him up – very high – into the rainforest canopy on several occasions. On the first occasion I worked with him, I had the tricky job of insisting that he wear a safety helmet. Understandably he was reluctant to do this due to the uncomfortably high heat and humidity of the jungle. Helmets are hot, sweaty things at the best of times and they aren't the most flattering on camera. This placed



Filming with Sir David Attenborough for *Life of Mammals* in 2001

me in a huge dilemma since he was, and still is, a hero of mine and I was clearly irritating him by being so insistent. In the end, of course, he humoured me with characteristic grace and agreed to put one on. Just as I was doing up the helmet's chin-strap something fast streaked through vision to imbed itself in the leaf-litter behind him. I hauled David up into the canopy, made him secure, then walked over to investigate what it was that had hit the ground. A seed-pod weighing a kilo had fallen 200 feet and embedded itself 6 inches into the dirt no more than 5 feet away from where David had been standing. That was my life-lesson right there. Never compromise safe working practices, even if it does temporarily make you a little unpopular with your hero!

Fact File

James Aldred started climbing trees as a teenager growing up in the New Forest, where he also developed a passion for wildlife photography and filming. He is now a BBC NHU bursary-trained cameraman with 20 years' experience working in the wildlife film industry. A specialist in filming at height, with particular emphasis on working from ropes in remote rainforest locations, his key camera skills include long lens animal behaviour, presenter-led sync, remote cams and handheld observational. He is also an experienced cable-dolly and Ronin operator. James has won an EMMY and had BAFTA and RTS nominations. See more at: www.naturalhistorynetwork.co.uk/freelancers/james-aldred and at: <http://canopyaccess.co.uk>

If you have enjoyed this article, you will be able to read more in *The Man Who Climbs Trees*, James's forthcoming book, commissioned by Penguin/Random House and scheduled for publication in autumn 2017 – should be a good read!



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