

Caught on Camera

Spy cams expose bilby sex secrets

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By Fiona Williams

The appropriation of surveillance camera equipment in an unlikely setting has enabled documentary writer/producer/director **Celia Tait** to capture never-before seen footage of the mating habits of the bilby.

The dilemma of how to document the mating habits of a nocturnal creature that spends 90 percent of its time underground led to the use of conventional surveillance equipment in an unconventional way. The footage captured by the crew in the filming of *Return to Eden* has shed new light on previously held understandings of the bilby and particularly, of its breeding cycle.

The documentary tells the story of how feral cats and foxes have wiped out many native species of marsupials, with a focus on the threatened bilby. The life cycles of each species have been captured by the production crew, which consisted of DOPs **Mitchell Kelly**, **Leighen de Barros** and **Uli-Stephan Krafzic**, production manager **Karen Williams**, producer **Brian Beaton** and editor **Peter Pritchard**.

The filming of the bilby footage took place at the Kanyana Wildlife Rehabilitation Centre, on the Darling Escarpment overlooking Perth, where founders **June** and **Lloyd Butcher** rehabilitate sick, injured, orphaned and displaced wildlife and educate the community about wildlife preservation.

Tait explained that prior to the documentary, there was virtually no understanding of the mating habits of the bilby or of what the animal did in its burrow, "for all we knew, it just sat there and slept and scratched its nose and did nothing". To understand the creature's activity, three infra red surveillance cameras, two fixed on a wide angle and one on a head, were placed inside the artificial bilby burrow at Kanyana, with a 1.2 metre focal length. Cables connected the cameras to remote controls some 400 metres away in the Butcher's home. An additional lipstick surveillance camera attached to a tiny television screen was placed outside the burrow to capture events taking place outside the bilby boudoir. The burrow itself was lit by tiny LCD lights, carefully measured so as not to dramatically alter the temperature inside the burrow.

"This is one way that cheap technology has opened up a whole new dimension to filming natural history," Tait explained.

She explained that the production team opted to use infra red equipment because of its "non-interventionist" nature.

"Sometimes you can condition nocturnal animals to get used to lights," she said. "But this is an animal that has very limited eyesight in light, so we knew its behaviour would change. It opened up a whole new world being able to use cameras that can see through the dark.

"The irony is that most of the film is shot on top of the line Super 16, which absolutely wonderful. But for the revelatory material, we went with infra red cameras, which are completely bottom of the range in terms of quality, but fantastic because the animal has absolutely no idea that they are there. The conditions don't change at all."



The animals were subjected to what Tait calls "Big Brother syndrome", where every aspect of their lives were caught on tape, including a phenomenal 19-hour "mating bonanza" in which the lusty endeavours of the bilbies kept the crew enthralled for hours and prevented a joey from being released from the pouch of the otherwise-engaged mother.

"They had no privacy that's for sure," said Tait.

The unique nature of the subject matter meant that often events taking place were of a "hit and miss" nature, particularly when capturing the birth of neo-natal bilbies, which Tait explained are about the size of a jellybean.

"Some of it is very macro photography which can be tricky to capture, so there was a lot of hit and miss moments and of course, nobody had seen this before, so you don't know quite what to look for. You just had lots of hours sitting there waiting for things to happen."

The experience was an eye-opener, said Tait, given that the crew had no preconceived idea of what activity to expect to capture.

"It was an absolute revelation, for the scientists too. It has really opened up a whole new dimension of life beneath the ground for these bilbies. The nice thing about it is that from filming them, we can finally document the lives of these bilbies in detail, but from a scientific research point of view, it's very exciting, because they actually get to observe the intimacy of a life cycle."