

Could big cats be roaming the UK?

**Video transcript for video looking at the scientific evidence of big cats.
Presenter Ben Garrod interviews Dr Andrew Hemmings.**

Ben Garrod (BG): "Hi Andrew."

Dr Andrew Hemmings (AH): "Hi Ben."

BG: "Thanks for inviting me today."

AH: Not at all. Not at all.

BG: Love this place... What have we got here?

AH: We have selected samples from twenty two different carcasses taken primarily from the Dorset heathlands but also from across Gloucestershire

BG: So how does a collection of sheep and deer bones tell us whether there are big cats in the UK?

AH: Well when a predator has taken down its prey, the first thing it'll do is consume the meat on the carcass.

BG: Yep

AH: As it makes its way down to the bones, it will begin gnawing the bone and as a result, making these indelible imprints into the bone. We call these tooth pits.

And what we see here is a rather large tooth pit, probably made by a canine tooth. Now this is a canine of a puma...

BG: Yep

AH: ... Coming down into the bone and forming that tooth pit. And so, by measuring the length of the tooth pits, but also the spacing parameters of any tooth pits left behind on the skeleton, we can make reasoned judgements as to what predator has taken down the prey species.

On this carnassial, there are three conical projections.

BG: Yep

AH: One, two, three.

BG: Yep

AH: And we're interested in two of these projections; the parastyle – this one here – and the protocone – this one here. And the spacing, the distance

between the parastyle and the protocone, is much wider in the cat versus the dog.

BG: Right.

AH: And to increase the chances of us seeing the carnassial imprints, we look for the flat bones...

BG: So, shoulder blades, jaws, pelvises... stuff like that.

AH: Absolutely – where we're more likely to see this trio of projections.

BG: Yep

AH: What we've got here is a pelvis from a sika deer, and you can quite clearly see this trio...

BG: You really can.

AH: ... of indentation. This is much wider than we'd expect to see in a dog.

BG: Is there the potential to confuse possible animals that have left these indentations?

AH: Certainly when we get down to the level of carnassial spacings, our analytical precision increases.

BG: So with all this tantalising evidence, do you think there are big cats in the UK?

AH: This is one paragraph in what'll be a much larger narrative, and this section of the jigsaw – this tooth pit analysis – currently, is stacking up in favour of the big cat.

So at present, we're gathering more samples, we're doing more analysis and we hope to have some more reliable feed on this in the not too distant future.

BG: It's exciting stuff.

AH: Certainly is.

BG: Andrew, thanks so much for taking the time to talk to me today, it's been brilliant.

Tooth pit analysis gives us very detailed evidence, but whether it's enough to say big cats are living wild in the UK is still hotly debated. What I find most interesting though, is that the evidence we do have, doesn't come from big cats, but from the bones of animals that have been eaten by a mystery predator.