

## A yeti? No, it's the rare Himalayan brown bear



A Himalayan brown bear from Deosai National Park in Pakistan. Associate Professor Charlotte Lindqvist found that this bear comes from an evolutionary line that diverged from other brown bears. PHOTOS: ICON FILMS PHOTO: ABDULLAH KHAN, SNOW LEOPARD FOUNDATION

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### A researcher testing 'yeti' samples discovers this brown bear is genetically distinct from others, needs protection



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That science inspires film is no secret, but not many would think that inspiration can also flow the other way.

The 2014 space film *Interstellar*, for instance, led to the publication of a scientific paper on black holes. And closer to home, a Singapore-based scientist's research on "yeti" samples has shed light on the little understood bears of the Himalayas, with an academic paper on the subject published this week.

It all began in 2015 when bear researcher Charlotte Lindqvist was approached by a film crew making a documentary called *Yeti Or Not?*.

They wanted her opinion on some recent scientific research which hypothesised that yetis - the mythical beasts that terrorise the peaks of the Himalayas - were actually a hybrid of brown bears and polar bears.

"That got me suspicious, because there are certainly no polar bears in the Himalayas," Associate Professor Lindqvist told *The Straits Times*.

Prof Lindqvist, who is a visiting associate professor at Nanyang Technological University's School of Biological Sciences, told the film crew that the evidence they had was not conclusive enough, so they sent her nine biological samples of skin, bone and hair, which had supposedly come from yetis.

"I'm no yeti expert, neither am I particularly interested in the yeti myth," chuckled Prof Lindqvist, 49, who is also an associate professor at the University of Buffalo in the United States.

"The main reason I got into this is because I'm really interested in bear genetics, their history, and how they're connected and distributed around the world."

A TYPE OF HUMAN?

**According to this hypothesis, yetis are not a weird type of bear; they were a late-surviving type of human known as Denisovans that had special adaptations for living at high altitudes.**

DOCUMENTARY DIRECTOR STEPHEN GOODER, on a hypothesis about the yeti.

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Indeed, these nine "yeti" samples came from a wide range of places. Some were sourced straight from the Himalayas, while others came from a private collection in the Messner Mountain Museum in northern Italy.

Prof Lindqvist said that not much research has been done on bears in the Himalayas, so she was eager to fill this knowledge gap.

Her team also tested the DNA of known bears to provide a basis for genetic comparison.

She sequenced the genomes of all the supposed yeti samples, and found nothing that suggested a polar bear connection.

Eight were from Asian black bears, Himalayan brown bears or Tibetan brown bears.

The ninth came from a dog.

Her analysis of all the "yeti" and bear samples yielded a new finding, as it showed that Himalayan brown bears come from a distinct evolutionary lineage that diverged early on from all other brown bears.

Prof Lindqvist said this split, leading to hundreds of thousands of years of isolation from other brown bears, means the Himalayan brown bears are in greater danger than generally recognised. These bears are found in the north-western Himalayan mountains.

Taken as a whole, brown bears around the world are far from endangered.

But Prof Lindqvist said that because Himalayan bears are genetically distinct and number only in the hundreds, they need to be protected even more.

Her work is only a start, she said, with more samples needing to be collected.

"Further genetic research on these rare and elusive animals may help illuminate the environmental history of the region, as well as bear evolutionary history worldwide... and also in crafting management strategies."

But what of the film-makers? Documentary director Stephen Gooder told ST: "When Charlotte came up with a negative result - no evidence for polar bear genes in Himalayan bears - this was disappointing from a purely TV perspective, but it is just how science works."

He said that in fact, this allowed the team to focus on another hypothesis they were considering on the yeti's origins: that it was a type of human.

"The yeti legend could be a very ancient oral tradition that has been handed down by word of mouth for at least 15,000 years," said Mr Gooder.

"According to this hypothesis, yetis are not a weird type of bear; they were a late-surviving type of human known as Denisovans that had special adaptations for living at high altitudes."

He said that early humans may have been the source of legends, such as *Homo floresiensis* from the Indonesian island of Flores, nicknamed "hobbits" because the small stature of their skeletons called to mind the diminutive folk of *Lord Of The Rings*.

Previous reports in the international media have speculated on the links between the "hobbits" and the Indonesian myth of a tiny human-like creature on the island of Flores called the "ebu gogo", literally "grandmother who eats everything".

Mr Gooder said: "The living folklore could reflect real-life encounters from the past, when our *Homo sapien* ancestors came into contact with other pre-existing species of humans."

He acknowledged that while his documentary aimed to find a scientifically plausible explanation for the yeti, the creature simply could be "just a story".

"But like many people, I think that powerful, long-lived stories tend to have some kind of basis in fact. And it's fun to see if you can puzzle out what that basis might be."