

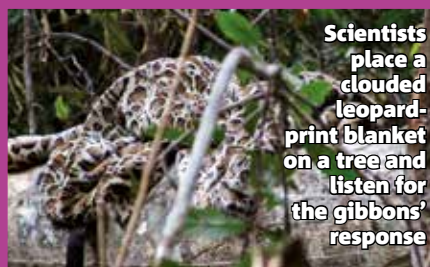
Gibbons sometimes make soft 'hoo' calls while lounging in trees



SCIENCE SPY TRICKS



A fake bird of prey placed near a group of gibbons causes an uproar



Scientists place a clouded leopard-print blanket on a tree and listen for the gibbons' response



Esther Clarke eavesdrops on gibbon calls

Communication is key to gibbons' survival, and they have many different vocalisations, or calls. Some are loud enough to echo through their rainforest habitats in parts of **Southeast Asia**. But others are so **soft** that humans can barely hear them.

Until recently, little was known about these **quiet calls**. But by using a combination of technology and tricks, scientists have begun to crack the code to this language.

CLOSE CALLS

In 2005, British ecologist **Esther Clarke** led a team of scientists on a 'spy' mission in **Khao Yai National Park, Thailand**. Their goal was to eavesdrop on white-handed gibbons living in these woods. The white-handed gibbon is one of **16 species** in the gibbon family, a group of tree-dwelling apes. The animals are known for having **super-long arms** that they use to move across branches.

In the morning, mated pairs of white-handed gibbons produce **loud whoops** in unison. They belt out these 15-minute ape anthems, known as **duets**, as a way of telling others to back off their territory. Hiking through the forest, the scientists could hear these booming cries. But Esther's team wasn't there to study the loud calls. They wanted to learn about

softer gibbon vocalisations known as **hoo calls**. "Families use hoo calls all the time," Esther says. "But no one really knew what they were saying." The sleuthing scientists finally located a few small groups of gibbons to spy on.

LISTEN UP

Since hoo calls are barely audible to humans, the researchers brought along a **high-powered recording device** that could pick up even the softest sounds. And as the animals snacked on fruit, groomed each other and babbled away in the treetops, Esther quietly stood underneath, holding up a microphone. Over the next four months the team recorded gibbon '**conversations**' for up to an hour at a time. In addition to making hoo calls while chilling out, the team suspected that gibbons created these vocalisations when they **sensed a predator**. To find out, Esther and her colleagues used some unexpected tools in their research kit...

FANCY DRESS

One day a mother white-handed gibbon was grooming her baby in a tree when an **orange creature with black stripes** walked across the forest floor. Her mate

and other nearby gibbons saw it too. A chorus of soft hoo calls came from the trees. Then the apes began throwing sticks at the intruder. But they didn't have to worry.

Although the figure *looked* like a big cat, it was actually a **scientist covered in tiger-print fabric** who was crawling on all fours! "The experiment showed that these calls can be used as a **danger signal**," Esther says.

The team also placed a pretend **bird of prey** in tree branches near one of the gibbons' hangout spots. When the apes saw the bird, they let out hoo calls that were even *quieter* than usual. "This surprised us because we thought that all hoo calls **sounded the same**," Esther says. The team's findings indicated that gibbons make different hoo calls for **different predators**. "We learned that there's more to these calls than anyone had realised."

Learn to speak gibbon!

Get your lips around these six gibbon phrases...

"Wooo-hoo-hoo-hoo-wa-wa"* Look out! Big cat!

"Hoo.....hoo.....hoo.....hoo" Look out! Eagle!

"Hoo-hoo-hoo-wooooo-wooOOOO-WOOOOOOOOOOOOOO-wooo-woo-woo-woo-woo"

Listen to me/check me out! (the '**great call**', a phrase that's specific to female gibbons)

"Wa-wa-wa-WA-WA-wa-wa" She's my mate and I'm guarding her, so stay away!

(the male's immediate response to her '**great call**')

"Waa-hoo-wa-waa-wa-wa" I'm a male gibbon and I'm with her

"Wa-waa-waaa-hoo-Waa-hoo" I'm a female gibbon and I'm with him

* The smaller the writing, the softer the call

Up in arms

Gibbons have the **longest arms in proportion to their bodies** of any other primate. Here's what a **ten-year-old human** would look like if her arm-to-body proportions were the same as a gibbon's...



Phone force

Engineer and National Geographic Emerging Explorer **Topher White** was upset that a forest in **Indonesia** was being ravaged by illegal logging, leaving the gibbons there without a home. Topher then realised that he could help protect their habitat by attaching recycled mobile phones to trees!

The phones were programmed to pick up the sound of a logger's chainsaw. They then transmitted the audio and their location to a control centre, which sent park rangers to the scene. Topher's system is now being used in rainforests worldwide.

If there were a gibbon call to say thank you, Topher would be hearing it a lot!



Topher White mounts a solar-panel-powered mobile phone to a tree



A gibbon's strong arms allow it to hang from branches