

DOCTOR ORANGUTAN: FIRST WILD ANIMAL SEEN USING MEDICINAL PLANT

The Sumatran orangutan used a plant known to humans for its therapeutic qualities.

By Gayathri Vaidyanathan

An orangutan in Sumatra surprised scientists when he was seen treating an open wound on his cheek with a poultice made from a medicinal plant. It's the first scientific record of a wild animal healing a wound using a plant with known medicinal properties. The findings were published this month in *Scientific Reports*¹.

"It shows that orangutans and humans share knowledge. Since they live in the same habitat, I would say that's quite obvious, but still intriguing to realize," says Caroline Schuppli, a primatologist at the Max Planck Institute of Animal Behavior in Konstanz, Germany, and a co-author of the study.

In 2009, Schuppli's team was observing Sumatran orangutans (*Pongo abelii*) in the Gunung Leuser National Park in South Aceh, Indonesia, when a young male moved into the forest. He did not have a mature male's big cheek pads, called flanges, and was probably around 20 years old, Schuppli says. He was named Rakus, or 'greedy' in Indonesian, after he ate all the flowers off a gardenia bush in one sitting.

In 2021, Rakus underwent a growth spurt and became a mature flanged male. The researchers observed Rakus fighting with other flanged males to establish dominance and, in June 2022, a field assistant noted an

open wound on his face, possibly made by the canines of another male, Schuppli says.

Days later, Rakus was observed eating the stems and leaves of the creeper akar kuning (*Fibraurea tinctoria*), which local people use to treat diabetes, dysentery and malaria, among other conditions. Orangutans in the area rarely eat this plant.

As well as eating the leaves, Rakus chewed them without swallowing and used his fingers to smear the juice on his facial wound for seven minutes. Some flies settled on the wound, whereupon Rakus spread a poultice of leaf-mash on the sore. He ate the plant again the next day. Eight days after his injury, his wound was fully closed.

The research group has seen no other orangutans in the national park self-medicate using akar kuning in 21 years of observation. This could be because wild orangutans in the region are rarely injured. Or perhaps Rakus is the only one who knows of this treatment, which could be a behaviour he picked up before he moved into the area.

"It is the first study to scientifically demonstrate that an animal is using a plant with medicinal properties applicable to wounds, and putting those on the wounds and consistently treating over a period of time," says Michael Huffman, who studies animal self-medication at the Institute for Tropical Medicine at Nagasaki University in Japan.

Huffman says self-medication is seen in many species. Canadian snow geese (*Anser caerulescens*) swallow leaves whole to expel tape worms². Dusky-footed wood rats (*Neotoma fuscipes*) line their nests with aromatic plants to fumigate parasites³. And chimpanzees (*Pan troglodytes*) in Gabon have been observed rubbing insects near their wounds⁴, potentially as treatment.

Humans might even have discovered some remedies by watching animals, he says. "Probably our ancestors were looking at other animals and learning about medicines." When social animals communicate, "that information sticks and can last over generations".



Rakus's wound was under his right eye.

threat to the four US and three Russian astronauts aboard the International Space Station. Three people are aboard China's Tiangong space station, but there have been no reports of precautionary actions taken there, either.

Some satellites did stop making scientific observations. For instance, NASA's Chandra X-ray Observatory temporarily ceased gathering astronomical data as a precaution before the storm and stowed its instruments to protect them from radiation blasts. And during the storm, NASA's ice-measuring ICESat-2 satellite automatically stopped doing science when it experienced unexpected rotation, probably caused by increased atmospheric drag, a NASA spokesperson said.

What else can scientists learn from the storm?

There might be fresh insights to come. The European Space Agency's Solar Orbiter probe is nearly behind the Sun with respect to Earth, giving it a different view of the storm. Active region 3664 has rotated off the side of the Sun seen from Earth and into the field of view of Solar Orbiter. "We should get a better idea in the next few days if this sunspot intends to keep packing the punches on the other side of the Sun," says David Williams, one of the spacecraft's instrument operations scientists. The sunspot region is also now facing NASA's Parker Solar Probe — which is in the middle of a series of dives through the Sun's outer atmosphere and happens to be at the outermost part of its looping orbit around the Sun. Both probes are built to withstand the onslaught of solar eruptions.

When could the next big storm affect Earth?

At any time. Scientists expect the current solar cycle to peak some time this year, owing to the number of sunspots they are observing. The biggest storms typically happen months to years after this official peak. Furthermore, as the solar cycle progresses, sunspots tend to appear closer to the Sun's equator, increasing the chances of coronal mass ejections that will head directly for Earth rather than out into space, Dahl says.

By Alexandra Witze

1. Laumer, I. B. et al. *Sci. Rep.* **14**, 8932 (2024).
2. Huffman, M. A. & Caton, J. M. *Int. J. Primatol.* **22**, 329–346 (2001).
3. Hemmes, R. B., Alvarado, A. & Hart, B. L. *Behav. Ecol.* **13**, 381–385 (2002).
4. Mascaro, A., Southern, L. M., Deschner, T. & Pika, S. *Curr. Biol.* **32**, R112–R113 (2022).