WHY NOT ALL REINDEER GO THE DISTANCE

Migratory behaviour in reindeer is linked to events of the last ice age.

Some reindeer make epic migrations of more than 1,000 kilometres a year; others stick close to home. Scientists have now linked a reindeer's tendency to migrate to its genetic heritage.

Maria Cavedon and Marco Musiani at the University of Calgary in Canada and their colleagues tracked 139 reindeer (*Rangifer tarandus*), also known as caribou, moving throughout western North America. The team then looked for genes that could explain the differences in individuals' movement patterns.

This revealed genetic vestiges of the last ice age, when an ice sheet covering part of North America divided reindeer into northern and southern populations. The authors show that modern animals with greater genetic similarity to the northern population are more migratory than are those more closely related to the southern population.

Fifty-seven genetic mutations seemed to have particularly strong associations with migration. Many are in genes that, in other animals, affect brain activity and fat storage — logical connections, given that metabolism and a sense of time could influence migration.

However, because humans have fragmented reindeer habitats, the populations most prone to migration could die out.

PLoS Genet. **18**, e1009974 (2022)

FOSSIL PUKE REVEALS SECRETS OF ANCIENT WINGED REPTILES

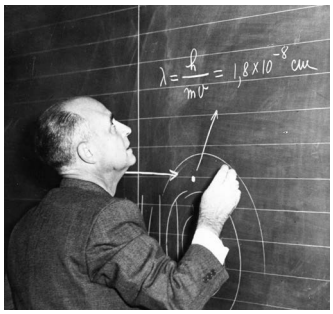
An analysis of fossilized puke has revealed that, just like people, extinct winged reptiles called pterosaurs could vomit — a habit that is providing clues to their diet and anatomy.

Shunxing Jiang at the Chinese Academy of Sciences in Beijing, Xiaoli Wang at Linyi University in China and their colleagues analysed two fossils of the pterosaur *Kunpengopterus sinensis* and two preserved regurgitated pellets located nearby. The fossils were discovered in an ancient rock formation in northeast China.

The researchers found that the pellets contained the scales of a type of extinct fish. The pterosaurs, a juvenile and an adult, probably vomited them shortly before they died.

Modern birds have stomachs divided into two chambers: one secretes digestive acids; the other helps to break down bones, scales and other indigestible elements that some birds then regurgitate in the form of pellets. The authors say that their findings suggest that pterosaurs also had a two-part stomach and were able to contract it to force swallowed food up into their mouths.

Phil. Trans. R. Soc. B **377**, 20210043 (2022)



CREDIBILITY SCORE: PEOPLE PUT THEIR TRUST IN SCIENTISTS

People are more likely to believe a cryptic claim if it comes from a scientist than from a spiritual guru.

Suzanne Hoogeveen at the University of Amsterdam and her colleagues wanted to understand how individuals' religious world views affect their trust in various sources of expertise. The team asked 10,000 Internet users from 24 countries to read seemingly profound but ultimately meaningless statements, such as one beginning: "We are being called to explore the cosmos itself as an interface between faith and empathy". Participants also saw pictures of the supposed source of the text: one was a robed man identified as a 'spiritual authority'; the other was physicist Enrico Fermi, labelled 'a scientific authority'.

The researchers found that regardless of their country or level of religiosity, participants regarded absurd claims from a scientist as more credible than those from a spiritual leader. The authors call this phenomenon the Einstein effect; they found it was weaker for participants who reported strong religious beliefs.

The results also suggest that people will put more effort into deciphering a message if they trust the source.

Nature Hum. Behav. https://doi.org/gpdt4x (2022)

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