

What the scientists are saying...

The genes behind depression

Scientists have identified dozens of gene variants that make people more likely to suffer from depression, a development that could lead to better treatments for the condition. While studies of twins have long indicated that depression is partly heritable, the actual genes involved have proved elusive. For the new study, an international team compared the DNA of 135,000 people with a history of depression and 345,000 without, and found 44 gene variants that were more common in those with depression, 30 of which had not previously been associated with the condition. "There is certainly no single gene for depression," said Professor Cathryn Lewis of King's College London, one of the senior authors. However, when subjects were ranked according to their genetic risk factors, those in the top 10% were found to be two-and-a-half times more likely to experience depression than those in the bottom 10%. Knowing which genes can influence depression should lead to a better understanding of the biological mechanisms involved in the condition – and perhaps new drug treatments.

Dementia link to routine drugs

Hundreds of thousands of people are taking drugs that may raise their risk of developing dementia, scientists have warned. A University of East Anglia study used GP records to chart the medical histories of more than 320,000 people over 65, about 40,000 of whom had dementia. They found that sustained use of anticholinergic drugs, which include common antidepressants such as paroxetine and amitriptyline, as well as drugs used to treat bladder problems and Parkinson's, was associated with a rise in an individual's chances of developing



Damaged reefs and the sound of silence

dementia over a 15-year period, from 10% to 13%. The study doesn't prove that anticholinergic drugs cause dementia – it's possible that people in the early stages of the illness are more likely to be prescribed them – but the researchers said the findings strongly suggest a causal link, and have called for doctors to exercise more caution in prescribing these medications.

Don't show a horse a long face

If you scowl at a horse, it may sense that something is amiss – and treat you warily the next time it sees you. To find out how the animals respond to human facial expressions, researchers from the Universities of Sussex and Portsmouth presented a group of horses with photos of a woman looking either happy or angry. Hours later, the woman turned up at the horses' stables, this time with a neutral expression, and the team observed how the horses reacted, paying particular attention

to the way they tilted their heads. Those that had seen the angry photo looked at the woman mainly through their left eye – which connects to the right hemisphere of the brain, where potential threats are processed. The others were more inclined to look at her with their right eye – connected to the left hemisphere, which deals with more positive interactions. Another group of horses were then shown the same two photos, but received a visit from a new person; this time there was no difference in the horses' behaviour, suggesting they not only recall expressions, but attach them to specific humans. Other animals may have the same ability, say the researchers in *Current Biology*, but their study was purely equine.

Coral "orchestra" falling silent

The Great Barrier Reef is slowly falling silent as its coral dies. A healthy reef thrums with sounds, including snapping shrimp clicks, damselfish chirps and the chattering of clownfish. Audible for miles around, this "coral reef orchestra" plays a key role in attracting to the reef juvenile fish, which then keep the coral healthy by removing algae. But when an international team of scientists listened to noise levels recorded in the northern Great Barrier Reef first in 2012, and then in 2016, after its coral had been severely damaged by cyclones and mass bleaching, they found that the reef had, "post-degradation", become significantly quieter. The team then constructed artificial reefs on sand flats and used underwater loudspeakers to broadcast the sound of both healthy and damaged reefs. The latter attracted 40% fewer juvenile fish. "A reef without fish is a reef that's in trouble," said Harry Harding from the University of Bristol, one of the study's co-authors.

Gorilla numbers better than expected

There are far more gorillas living in the forests of West Africa than previously thought – but their future is far from secure, says *The Guardian*. Over a decade, an international team of scientists monitored western lowland gorillas, which live in western equatorial Africa and make up about 99% of all living gorillas. By combining nest counts with data on factors such as the proximity of human populations and the extent of intact forest, the researchers were able to produce a sophisticated statistical model that put the gorillas' population at 361,900, roughly double that of previous estimates.



"But that is not the big story," warned Professor Fiona Maisels of the Wildlife Conservation Society. "Just because there are rather a lot of them does not mean they are not very, very vulnerable." Over the survey period, the team observed a 20% decline in numbers – suggesting a population in free fall. Moreover, 80% of the animals do not live in protected areas, making them vulnerable not only to poaching for bushmeat (traditionally one of the main threats to gorillas), but also deforestation, as land is cleared for agricultural use.

Soaring asthma death rate

The death rate from asthma in Britain has soared by more than 20% in four years, making it one of the highest in Europe, reports *The Daily Telegraph*. An analysis by the charity Asthma UK found 1,434 people in Britain died from the condition in 2015, up from 1,151 in 2011. Britain's average asthma death rate was 1.98 per 100,000 people; the EU average was 1.32. Only Serbia, Turkey, Estonia, Spain and Cyprus had worse rates. The best-performing country, Greece, had a rate of just 0.15. Asthma UK described the findings as "shocking" and urged the NHS to invest in front-line asthma services. Surveys suggest that 65% of patients with the chronic lung condition are not receiving the recommended care, such as annual reviews to ensure they are using inhalers properly. There are 5.4 million asthmatics in Britain, where an estimated one in 11 children have the condition.