RESEARCH HIGHLIGHTS

Selections from the scientific literature

PARTICLE PHYSICS

Only left-handed particles decay

Only subatomic particles with a left-handed spin decay as a result of one of the fundamental forces, confirming that the Universe has a left-hand bias.

A team working on the LHCb experiment looked at the decay of trillions of subatomic particles known as Λ_b^0 baryons emerging from collisions at the Large Hadron Collider at CERN, Europe's particle-physics laboratory near Geneva, Switzerland. During this decay, a bottom quark from the baryon can turn into an up quark. The team confirmed that the weak nuclear force — one of the four fundamental forces in the Universe — causes only bottom quarks with left-handed spin to decay into up quarks, as predicted by the standard model of particle physics.

Previous measurements had suggested that right-handed quarks might also decay in this way, which, if true, would have called for new fundamental forces of nature.

Nature Phys. **http://doi.org/6kg (2015)**

PAULO MINATEL GONELLA

PLANT BIOLOGY

New carnivorous plant found on Facebook

A new species of insect-eating sundew plant (*Drosera magnifica*; pictured) has been identified after an amateur naturalist posted photographs of it on Facebook.

Paulo Minatel Gonella at the University of São Paulo in Brazil and his colleagues were alerted to the photos on the social network, and travelled to southeastern Brazil to study the carnivorous species, which grows in a narrowly defined habitat on a single mountain. The plant has stems roughly 1.5 metres long and is the largest *Drosera* species in the Americas. The team found many insects trapped in a sticky substance produced by the plant's red tentacles, which cover the leaves.

The sundew is considered critically endangered, because coffee and eucalyptus plantations threaten its habitat.

Phytotaxa 220, **257–267 (2015)**

CONSERVATION

Better estimates of extinction risk

Using an improved method for calculating the extinction risk of species could lower the risk estimates for about one in ten threatened species.

The influential Red List from the International Union for Conservation of Nature (IUCN) groups thousands of threatened plants and animals into different categories of extinction risk. Lucas Joppa at Microsoft Research in Redmond, Washington, and his colleagues analysed different methods of calculating the 'extent of occurrence' (EOO) for 21,763 species of mammals, birds and amphibians on the Red List. The EOO is the total area over which a species might be found — the smaller the area, the greater the vulnerability of that species.

Past assessments often used EOO calculation methods that the IUCN now considers outdated. The researchers found that applying the IUCN-approved method would lower the risk category of many threatened animals for 14–15% of mammals, 7–8% of birds and 12–15% of amphibians.

Conserv. Biol. **http://doi.org/6jq (2015)**

MICROBIOLOGY

Microbes ramp up red-meat risk

Microbes in the gut help to boost the risk of colon cancer when haem, the pigment found in red meat, is present.

Haem in the diet has been linked to an increased risk of colon cancer — the pigment damages cells lining the gut, which leads to excessive cell proliferation. Noortje Ijssennagger at University Medical Center Utrecht in the Netherlands and her colleagues fed mice a diet containing haem and found that animals that also received antibiotics did not have this gut damage or increased cell proliferation. Haem increased the level of a bacterium called *Akkermansia muciniphila*, which breaks down the gut mucus lining, exposing gut cells to the damaging haem. Gut bacteria that produce sulfide also degrade this mucus barrier.

Using a biomarker to monitor gut mucus degradation could be a way to gauge colon-cancer risk, the authors say.

Proc. Natl Acad. Sci. USA **http://doi.org/6jp (2015)**