

RESEARCH HIGHLIGHTS

Selections from the
scientific literature

GENOMICS

Early farmers in Asia stayed local

Many East Asians are closely related to people who lived in the same region nearly 8,000 years ago, suggesting that little human migration has occurred in the area since then.

Agriculture emerged in East Asia more than 8,000 years ago, but it has not been clear whether the first farmers were related to earlier hunter-gatherers from the same region or to farmers who moved in from elsewhere. Veronika Siska at the University of Cambridge, UK, and her team sequenced partial genomes from 7,700-year-old remains of two women found at Devil's Gate, a cave in southeastern Russia near the border with China and North Korea. Comparisons of the genomes with those of contemporary Asians showed that the women shared ancestry with Korean and Japanese people, and were most closely related to the Ulchi, an indigenous population living near Devil's Gate.

The authors suggest that farming developed gradually in this region and that the harsh climate limited later migrations.

Sci. Adv. 3, e1601877 (2017)

ASTRONOMY

A leisurely way to visit the stars

Plans to explore the nearest star system rely on light sails — reflective panels that are propelled by light. These craft travel so fast that they will have little time to explore their destination, but altering the way the sails are used could help.

An Earth-sized planet orbits

Proxima Centauri, the Sun's nearest neighbour, which is 1.3 parsecs (4.2 light years) from Earth. Astronomers hope to send a fleet of miniature probes to explore it and the neighbouring twinned stars of Alpha Centauri. Under current proposals, these laser-propelled craft would take 20 years to reach the stars and zip past them in just a few hours (see *Nature* 542, 20–22; 2017). But René Heller of the Max Planck Institute for Solar System Research in Göttingen,

Germany, and Michael Hippke of Neukirchen-Vluyn, Germany, say starlight could be used to slow down a sail-carrying probe, allowing more data about the planet to be collected.

In their proposal, the sail would shift direction as it passed Alpha Centauri so that starlight and the stars' gravitational pull could slow it down. The probe would then swing into orbit around Proxima Centauri, allowing multiple fly-bys of Proxima's

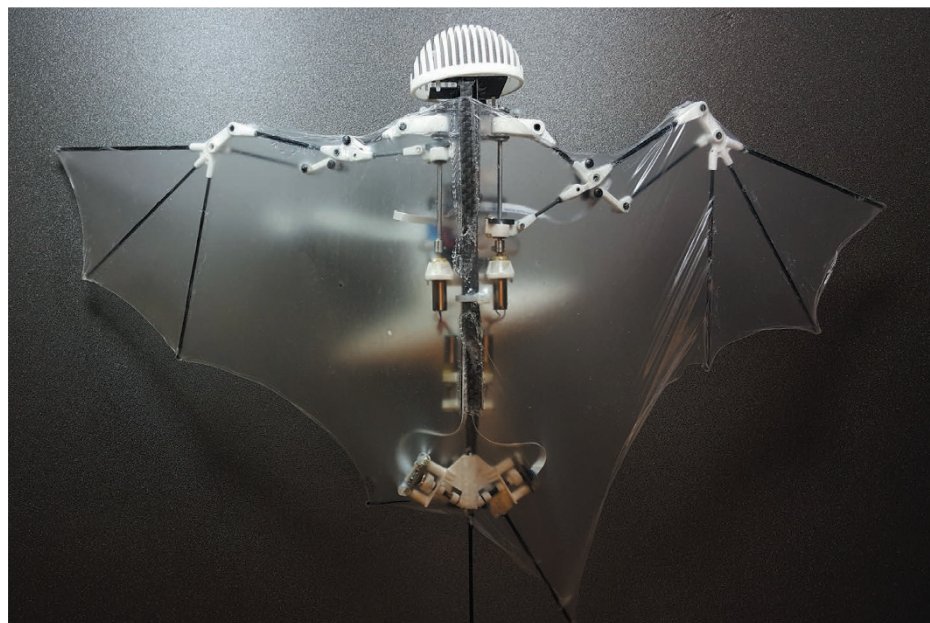
planet. Using this set-up, a probe would take roughly a century to get from Earth to Alpha Centauri, and another half-century to reach Proxima. *Astrophys. J.* 835, L32 (2017)

EVOLUTION

Intrepid invaders adapt fast

Rapid evolution of invasive animals could be allowing them to spread far and fast.

Animals that are introduced



ROBOTICS

A robot that flies like a bat

With articulated wings covered in a stretchy silicone, a 93-gram autonomous robot can mimic several of the complex aerial manoeuvres of bats.

Bat wings contain more than 40 joints that allow for a variety of intricate moves through the air. Earlier bat-inspired robots have been unable to get off the ground, and flying robots have been modelled on birds and insects. Bat Bot (pictured), built by Soon-Jo Chung at the California Institute of Technology in Pasadena

and his colleagues, can fly straight, dive and do banked turns. The team identified and included the nine most important wing joints needed for the robot to make these moves, and covered the robot's skeleton with a thin silicone membrane that allowed the wings to fold and extend. Each wing can move independently, as can the leading and trailing sections of each wing.

The robot could be used to further study the mechanics of bat flight, the authors say.

Sci. Robot. 2, eaal2505 (2017)