

are more intense, the authors suggest.

Nature Geosci. <http://dx.doi.org/10.1038/ngeo2456> (2015)

ANIMAL BEHAVIOUR

Lazy male birds pay a high price

Male songbirds that sleep late risk having their female partners mate with another male.

Mating outside of a monogamous pair in birds normally happens early in the morning. To find out if rising earlier or later would affect reproductive patterns of great tits (*Parus major*), Timothy Greives of North Dakota State University in Fargo and his co-workers captured male birds in Germany and implanted them with a device that releases melatonin.

This hormone is generated mostly at night to set the circadian clock. Male tits that had night-time-like levels of melatonin around the clock began their daily activities on average 10 minutes later than the control group. Their nests also contained more offspring fathered by another male, suggesting that the late-rising males were less able to defend their mates.

The results demonstrate how sexual selection affects circadian rhythms in the wild. *Funct. Ecol.* <http://doi.org/44c> (2015)

EVOLUTIONARY BIOLOGY

Galapagos iguanas share genes

Swimming lizards on one of the Galapagos Islands are evolving into new species, but they also seem to be mating with lizards from neighbouring islands — possibly helping to incorporate adaptations from other populations into their gene pool.

Sebastian Steinfartz at the Technical University of Braunschweig in Germany and his colleagues

analysed the genomes of more than 500 Galapagos marine iguanas (*Amblyrhynchus cristatus*; pictured) from the island of San Cristóbal in the Galapagos. They found evidence of ongoing hybridization between lineages from different islands, along with speciation in the San Cristóbal population.

This simultaneous hybridization and speciation could have contributed to the evolutionary success of the marine iguana, the authors say. *Proc. R. Soc. B* 282, 20150425 (2015)

MATERIALS

Tiny robot fuelled by light

A microscopic 'walker' just a few tens of micrometres in size can shuffle, rotate and even jump, powered only by light.

Hao Zeng and Diederik Wiersma at the University of Florence in Italy and their co-workers created their device using materials called liquid crystalline elastomers, which contract and expand like muscles. They added a light-sensitive dye, attached four cone-shaped legs made from acrylic resin and focused a laser beam on the robot. The device walked in a straight line on a patterned surface and even jumped up to 100 times its own body length.

Such a robot could be powered by ambient light alone, and could be modified to perform other actions such as swimming, the authors say. *Adv. Mater.* <http://doi.org/12747b> (2015)

ASTRONOMY

Megaflare seen on star surface

Astronomers have spotted an enormous surge of light and magnetic energy on a nearby star.

A team led by Wouter Vlemmings at Chalmers University of Technology

SOCIAL SELECTION

Popular topics on social media

Unpaid research jobs draw criticism

Volunteer jobs are a rite of passage for many budding ecologists and wildlife biologists, but a website highlighting these unpaid positions calls them “unprofessional” and “exploitative”. Alex Bond, a conservation biologist at the RSPB Centre for Conservation Science in Sandy, UK, created the Tumblr page ‘Crap Wildlife “Jobs”’ on 31 May (<http://crapwildlifevolunteerjobs.tumblr.com>), and it already has supporters on Twitter. “Really cool (and necessary) initiative,” tweeted Julie Godbout, an environmental geneticist at Laval University in Quebec City, Canada. “Do what you love AND get paid for it.” But Stephanie Stack, an environmental scientist with the Pacific Whale Foundation in Wailuku, Hawaii, which is featured on the page, says that unpaid internships give young scientists a chance to gain valuable experience and to make connections in the field.

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near Gothenburg, Sweden, pointed the ALMA radio telescope in northern Chile at the red giant Mira A, a star 92 parsecs (300 light years) away that was once like our Sun but is now bloated in old age. ALMA’s high resolving power was able to pick out features on the stellar surface — a feat unprecedented at these wavelengths. The data revealed a bright hotspot on Mira’s surface that is roughly the same size as Mercury’s orbit around the Sun.

The star is probably unleashing energy from its magnetic field, similar to what happens on the Sun, suggesting that magnetic fields have a role even when these stars grow old. *Astron. Astrophys.* 577, L4 (2015)

COGNITION

Chimps’ mental capacity to cook

Chimpanzees have key cognitive abilities for cooking food — a hint that humans might have developed the capacity for cooking early in evolution.

Felix Warneken at Harvard University in Cambridge, Massachusetts, and Alexandra Rosati at Yale University in New Haven, Connecticut,



studied the cognition of chimps (pictured) by presenting them with a specially designed cooking device and raw and cooked foods such as carrots and potatoes. They confirmed that the apes prefer cooked to raw items, and found that chimps are willing to wait longer for cooked food than for raw food. The animals were able to give up their own raw food to cook it, and to save it for later cooking.

The results suggest that the last common ancestor of apes and humans had the cognitive abilities to cook food, long before humans learned to control fire.

Proc. R. Soc. B 282, 20150229 (2015)

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