Lindquist at the Whitehead Institute for Biomedical Research in Cambridge, Massachusetts, Martin Burke at the University of Illinois at Urbana-Champaign and their colleagues used just three steps of chemical synthesis.

The new compounds killed infectious yeast in the lab and in mice, but were less toxic to human cells and mice than AmB. Yeast strains that were resistant to the compounds *in vitro* were unable to cause lethal infections in mice, unlike non-resistant strains, suggesting that drug-resistant strains are less fit.

The new antifungals kill yeast by pulling out ergosterol molecules from the yeast cell wall, but they do not bind to the similar molecule cholesterol in animal cell membranes.

Nature Chem. Biol. **http://dx.doi.org/10.1038/nchembio.1821 (2015)**

EVOLUTION

Migration explains drab female birds

Some female warblers lost their bright colours just as the birds were evolving to become migratory, suggesting that this behavioural change spurred the evolution of sex differences in plumage colour.

To find out why female songbirds are often as colourful as the males in tropical species but less colourful in northern ones, Troy Murphy at Trinity University in San Antonio, Texas, and his colleagues studied 108 species of wood warblers (*Setophaga tigrina*; female **pictured** left, male pictured right). Migratory species tend to live farther north, and the authors found that the longer the bird's migration, the more distinct the sexes look. In multiple species, these sex differences evolved at around the same time as the birds first began migrating.

The findings suggest that sex differences in colour are driven by the needs of females. Non-migratory females often defend their territories using bright colours to signal fighting ability. But females that migrate rarely act in this way, and bright colours could make them more visible to predators during their migration.

Proc. R. Soc. B 282, **20150375 (2015)**

NEUROSCIENCE

Stroke brain still controls device

Rats can use their brain activity to control an external device through an implanted electrode, even after a stroke. The finding suggests that people who have motor problems as a result of a stroke could one day benefit from such brain–machine interfaces.

Karunesh Ganguly at the San Francisco Veterans Affairs Medical Center in California and his colleagues placed electrodes near the part of the motor cortex in the rat brain that was injured by stroke, and then trained the animal to shift the angle of a water-feeding tube using just its brain activity. The team found that stroke-affected rats learned this task as quickly as control animals, even though the stroke animals showed only minimal improvements in movement.

The results suggest that the brain area injured by a stroke can still form new brain-cell connections.

J. Neurosci. 35, **8653–8661 (2015)**

CLIMATE-CHANGE BIOLOGY

Warming threat to ocean biodiversity

Marine biodiversity could undergo drastic changes in as much as 70% of the world's oceans if global warming is not limited to below 2 °C by 2100.

Grégory Beaugrand at the CNRS Laboratory of Oceanology and Geosciences in Wimereux, France, Richard Kirby at the University of Plymouth, UK, and their colleagues modelled how patterns of biodiversity across the oceans would change under different future climate scenarios, and compared them to patterns over the past 50 years and during prehistoric warm and cold periods.

With low levels of warming (mean temperature rise of roughly 1 °C), around 16% of the ocean would see increased biodiversity through species invasions and about 6% of oceans would experience a decrease. In the most extreme warming scenario, of roughly 3.7 °C, these numbers rise to about 32% and 44%. Such severe warming could produce a greater change in marine biodiversity than has been seen over the past 3 million years or so.

Nature Clim. Change **http://dx.doi.org/10.1038/nclimate2650 (2015)**

ECOLOGY

Coral faces algal sabotage

Caribbean coral have been invaded by algae that slow their growth and may have been introduced by humans.

Tye Pettay and Todd LaJeunesse at Pennsylvania State University in University Park and their colleagues sampled various coral species (*Orbicella faveolata*; **pictured**) from around the world and analysed the genetics of their symbiotic algae. They found that one alga in the Caribbean, *Symbiodinium trenchii*, comprised just a few lineages that were closely related to those in the Indian and Pacific oceans. Corals living with this symbiont tolerated high temperatures better than those without it, but incorporated calcium into their skeletons at around half the rate.

The findings indicate that this alga invaded the Caribbean thanks to human activities, and could have negative long-term ecological impacts in this region.

Proc. Natl Acad. Sci. USA **http://dx.doi.org/10.1073/pnas.1502283112 (2015)**

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SOCIAL SELECTION

Popular topics on social media

How best to respond to reviewers

Comments from referees reviewing a paper can sometimes be less than polite, making it tempting for authors to send equally rude replies. But a trio of blog posts emphasizes the importance of professional, constructive responses from authors (see go.nature.com/yzwvmt; go.nature.com/hzp3bg and go.nature.com/hchv3i). The posts, by three ecologists, aim to help researchers to avoid common pitfalls that can lower their chances of publication. Commenters on Twitter appreciated the guidance. Responding to one of the blogs, Auriel Fournier, a PhD student at the University of Arkansas in Fayetteville, tweeted: "I'm struggling with this right now, this was a very helpful and timely post."

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