still be a conservative figure.

Although polyploidy seems to play an important part in creating new species, the team found no evidence that these polyploid plant lines go on to diversify more often than non-polyploids.

NEUROBIOLOGY

Have guts, get nerve

J. Neurosci. **29,** 9683–9699 (2009)

Even in adulthood, gut neurons can renew themselves, scientists have found.

Mintsai Liu at Columbia University in New York and her colleagues compared neurons in the guts of normal mice with those from mice lacking a receptor for serotonin (5-HT), a neurotransmitter associated with adult nerve generation in other parts of the body.

They found that knocking out this receptor, 5-HT_4, prevents the proliferation of neurons usually seen in the gut of newborn mice. In normal mice, drugs that activate 5-HT_4 receptors promote neuron survival and stimulate stem cells to make new neurons.

The authors suggest that such drugs might be developed to repair damage to the enteric nervous system as might occur in inflammatory bowel disease.

EVOLUTION

Reinventing the egg

Evolution doi:10.1111/j.1558-5646.2009.00790.x (2009)

Many vertebrates have abandoned egg-laying for live birth. But despite some suggestive examples, convincing evidence for the evolutionary reversal of this trait has been lacking until now.

Vincent Lynch and Günter Wagner at Yale University, New Haven, carried out a phylogenetic analysis of 41 species of boa snake using recent DNA data. The most parsimonious explanation of the phylogeny, they conclude, is that the Arabian sand boa, *Eryx jayakari* (pictured below), one of only two species of egg-laying boa, re-evolved this ability some 60 million years after the transition of the group to live birth.

E. jayakari also lacks the egg tooth other oviparous snakes use to tear their way out of the egg, additional evidence that egg-laying was lost and reacquired, according to the authors.

R. STAUB

SOIL ECOLOGY

As different as day and night

Biogeosciences **6,** 1361–1370 (2009)

When it comes to warming's effects on plants, day and night are not equal.

Shiqiang Wan and his collaborators at the Chinese Academy of Sciences' Institute of Botany in Beijing set up 36 experimental plots on an Inner Mongolian steppe. They warmed some plots only during the day, others during night-time hours only, and yet others around the clock.

Plots warmed only at night turned the steppe from a net carbon source to a net carbon sink; the extra warming overnight stimulated respiration rates, boosting the plants' daytime rate of photosynthesis and so their uptake of carbon dioxide. The effects of separate day- or night-time warming did not add up to equal the effects observed at constantly warmed plots.

Many simulations of the effects of global warming on plants look at constant temperature elevations during a 24-hour cycle, but these may not be delivering the right picture.

MOLECULAR BIOLOGY

A regulator's regulator

Genes Dev. doi:10.1101/gad.541609 (2009)

Some small, non-coding RNAs regulate gene expression by binding to messenger RNA and preventing it from being translated into protein. The regulation of one bacterial gene, however, depends not just on one but on two non-coding RNAs, one of which inhibits the other.

Lionello Bossi and his colleagues at the Centre for Molecular Genetics in Gif-sur-Yvette, France, studied the production of a bacterial protein called ChiP, which is involved in sugar uptake. In the absence of sugar, a small RNA called ChiX attaches to ChiP's messenger RNA and prevents protein synthesis. Add sugar, however, and another RNA is produced that binds ChiX and targets it for destruction, allowing production of the ChiP protein.

The discovery of this new feature of small RNAs in living cells could mean that regulatory RNAs identified computationally by sequence may in fact be targets of regulation.

JOURNAL CLUB

Omar Tonsi Eldakar
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An evolutionary biologist learns how to be remembered: cheat someone.

What makes someone unforgettable? Is it their charm? Their looks? Or is it that they once stiffed you on the bill?

Like many others, I have trouble remembering people's names, even as I am being introduced to them, but certain names remain etched in my mind forever. Few, for example, will forget Bernard Madoff, the New York financier convicted of defrauding people out of billions of dollars in a giant Ponzi scheme.

Raoul Bell and Axel Buchner at the Institute of Experimental Psychology in Düsseldorf, Germany, have explored this bias in memory (R. Bell and A. Buchner. *Evol. Psychol.* **7,** 317–330; 2009). They reveal that humans have a greater propensity to remember the names of individuals associated with cheating than names associated with trustworthiness or other unrelated behaviours.

Cooperation is immensely beneficial to humans, but with cooperation looms the ever-present risk of exploitation. Researchers have proposed that humans have a specialized brain module dedicated to detecting and remembering cheaters, to help them to steer clear of future interactions with such individuals. It has previously been suggested that the cheater memory module is tied only to facial stimuli. But using the same behaviours associated with facial stimuli in previous studies, Bell and Buchner were able to replicate these findings using only names, which suggests a more general module for remembering cheaters.

Associating reputations with names is crucial to maintaining social norms through verbal mechanisms such as gossip. Thus memory bias for the names as well as the faces of cheaters could expand the ability of groups of individuals to avoid exploitation.

Madoff probably won't have much luck if he tries to scam people again.

Discuss this paper at **http://blogs.nature.com/nature/journalclub**