stages of development, and found that a lung developed early in the embryo but then slowed its growth as the embryo matured. As the lung shrank in size relative to the growing embryo, a fatty organ that helps fish to control their buoyancy developed.

This is further evidence that ancestral coelacanths could breathe air in shallow waters, and that they lost the use of the lung as it was replaced by the fatty organ — an important adaptation to the deep ocean.
Nature Commun. 6, **8222 (2015)**

PLANETARY SCIENCE

A balmy climate on exoplanets?

Certain planets outside our Solar System could have wind patterns that produce habitable climates.

Ludmila Carone at the University of Leuven in Belgium and her team used climate models to investigate atmospheric temperatures and wind patterns on planets with Earth-like atmospheres. The chosen planets closely orbit red-dwarf stars and always face their stars with the same side. The team found 3 possible climates for planets that have orbits of less than 12 days. Two of these climates could potentially host life, because of wind jets that stop the side of the planet exposed to the star getting too hot.

The findings could help to guide the selection of exoplanets for future study, the authors say.
Mon. Not. R. Astron. Soc. 453, **2412–2437 (2015)**

PLANT ECOLOGY

Orchid shapes trick male insects

Orchids have adapted the shape of their flowers to attract pollinating wasps.

These flowering plants lure male insect pollinators by producing chemicals that mimic the pheromones of their female counterparts, but the effect of flower shape on pollinators has been unclear. To look at this, Marinus de Jager and Rod Peakall at the Australian National University in Canberra studied two species of *Chiloglottis* orchids that emit the same pheromone and the two species of *Neozeleboria* wasps that pollinate the flowers. They found that the wasps copulated more frequently and for longer periods of time (**pictured**) with the orchid that they normally pollinate.

The dimensions and colour of the preferred orchid's callus (the central part of the flower) closely resembled the respective female wasp, and the overall shape of the flower allowed the male wasp to fit better within it.
Funct. Ecol. **http://doi.org/7rd (2015)**

ROD PEAKALL

AGRICULTURE

Ecological impact of crops drops

The environmental impact of maize (corn) and cotton crops on US freshwater ecosystems has been decreasing over the past decade, mainly because of the use of genetically modified plants that require less added pesticide.

Sangwon Suh and Yi Yang at the University of California, Santa Barbara, assessed the local environmental impacts of crops, including pollution from direct runoff of fertilizers and pesticides, as well as from processing and transportation. They found that the impact of maize and cotton has decreased by about 50% over the past decade. However, the impact of soya-bean crops has increased threefold, owing to the spread of an invasive soya-bean pest and a consequent rise in the use of insecticides. The authors say that further improvements may be more difficult, because pests and weeds are beginning to develop resistance to the pesticides produced by the modified crops.
Environ. Res. Lett. 10, **094016 (2015)**

SOCIAL SELECTION

Popular topics on social media

A call to deal with the data deluge

As the number of biomedical research papers continues its relentless growth, the quality and credibility of science is buckling under the weight of all the data. That is the conclusion of an article in the journal *eLife* that triggered discussion online this week. The piece, which is based on interviews with 20 anonymous US senior scientists, suggests a radical rethinking of the peer-review system to deal with the 'overflow' of data. Erik Müllers, a cell biologist at the Karolinska Institute in Stockholm, summed up the issue on Twitter: "Too many journals, too many researchers, too low quality: Overflow in #science and its implications for trust." But not everyone was on board. "Is there really an 'overflow' problem in science? I don't think so," tweeted Savraj Grewal, a cell biologist at the University of Calgary in Canada.
eLife 4, **e10825 (2015)**

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GENETICS

How Inuit genomes have adapted

The genomes of indigenous people in Greenland (**pictured**) show how they have adapted to thousands of years of frigid temperatures and a diet that is rich in fatty seafood.

Rasmus Nielsen at the University of California, Berkeley, and his colleagues analysed the genomes of 191 Inuit people from Greenland and compared them with genomes from people of European or Han Chinese descent. They found that the Inuit genomes were enriched for genes that convert certain fatty acids in the diet into more biologically active forms, and that counteract the oxidative stress associated with a high-fat diet. The team also discovered a mutation in the Inuit genomes that is linked to the development of brown fat cells, which generate heat.

These mutations seem to date from at least 20,000 years ago, when Inuit ancestors lived around the Bering Strait between Russia and Alaska.
Science 349, **1343–1347 (2015)**

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