RESEARCH HIGHLIGHTS

Selections from the scientific literature

GEOLOGY

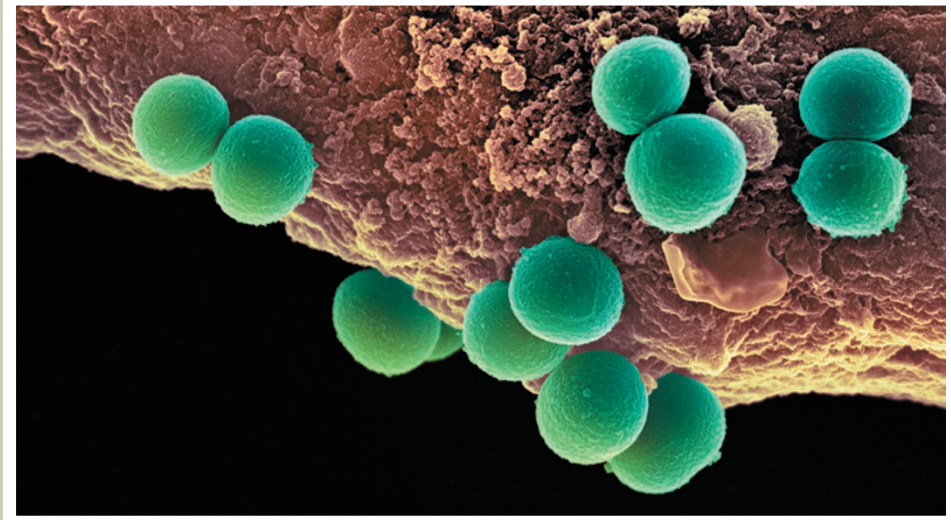
Ancient impact recorded in rock

South African rocks reveal that a huge asteroid smashed into Earth 3.26 billion years ago, turning sediments to liquid.

The rocks in the Barberton greenstone belt in South Africa contain tiny blobs of material that condensed from clouds of rock vapour generated by ancient impacts. Norman Sleep and Donald Lowe of Stanford University in California used those blobs, along with other features of the Barberton rocks, to calculate the size and geological effects of this particular asteroid impact.

The duo found that the asteroid was probably 50 kilometres across. Seismic waves from the impact fractured much of Earth's crust, triggering strong earthquakes and giant tsunamis, the authors say.

Geochem. Geophys. Geosys. **http://doi.org/sb4 (2014)**



SPL

ANTIMICROBIALS

Biocide boosts bacterial binding

People exposed to an antimicrobial compound used in many consumer products are more likely to carry an opportunistic pathogen, increasing their risk of infection.

The bacterium *Staphylococcus aureus* (pictured in green) is normally harmless in healthy adults but can cause serious infections in sick or injured people. A team led by Blaise Boles at the University of Michigan in Ann Arbor found that people with higher levels of the biocide triclosan in their nasal secretions had *S. aureus* colonies in their noses more frequently than people with little or no triclosan in their secretions. Triclosan, which is used in toothpastes, soaps and medical equipment, increased the binding of *S. aureus* to plastic, glass and human proteins such as collagen and keratin.

The results suggest an urgent need to re-evaluate the use of triclosan in consumer products, the authors say.

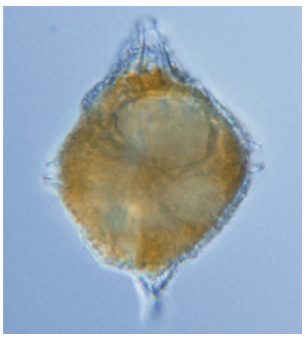
mBio 5, **e01015-13 (2014)**

ORGANISMAL BIOLOGY

'Extinct' plankton found in Pacific

A plankton species thought to have gone extinct more than a million years ago has been found living in the western Pacific Ocean.

Kenneth Mertens of Ghent University in Belgium and his colleagues discovered live cysts of the dinoflagellate plankton *Dapsilidinium pastielsii* (**pictured**) in the sea floor from Japan to the Philippines and Indonesia. This stably warm region, known as the Indo-Pacific Warm Pool, harbours high levels of biodiversity.



The warm waters there could have provided a haven for *D. pastielsii* to survive in the water column and sediment. Such areas of refuge will be important for maintaining biodiversity in a changing climate, the authors say.

Geology **http://doi.org/sb7 (2014)**

ANIMAL BEHAVIOUR

Fruit-fly microbes draw more flies

Researchers have pinpointed a chemical source that attracts fruit flies to food: the gut bacteria of fruit-fly larvae sitting on the food.

Reuven Dukas and his colleagues at McMaster University in Hamilton, Canada, previously showed that fruit flies (*Drosophila melanogaster*) are attracted to food occupied by larvae. Now they find that the flies prefer food that has been inhabited by larvae with intact gut microbiomes rather than by bacteria-free larvae.

The authors also show that this attraction is not related to the presence of gut bacteria or larvae in the food, but to the physical changes that the feeding larvae make. Used food is easier for a larva to burrow into than fresh food, they say.

J. Exp. Biol. 217, **1346–1352 (2014)**

YOSHIHITO TAKANO

ASTRONOMY

Earth twin spotted in habitable zone

Astronomers have discovered a planet that is a similar size to Earth orbiting a cool, dim