RESEARCH HIGHLIGHTS

Selections from the scientific literature

MARINE BIOLOGY

Sea creatures adapt to acid

Sea urchins can radically alter their energy use to cope with more-acidic oceans.

Donal Manahan led a team at the University of Southern California in Los Angeles that grew *Strongylocentrotus purpuratus* urchins in current seawater conditions and in more-acidic conditions that are expected under some climate-change scenarios. They found no difference between the two larva groups in terms of size, gene expression or metabolic rate. But larvae feeding in the more-acidic water allocated 84% of their ATP, which transports energy within cells, to protein synthesis and ion transport, whereas larvae feeding in normal conditions allocated just 55% of their ATP to these tasks.

Altering their metabolism could help sea urchins and other marine organisms to withstand climate change, the authors say.

Proc. Natl Acad. Sci. USA **http://doi.org/3cg (2015)**

JIM BRANDENBURG/MINDEN PICTURES/FLPA

GLACIOLOGY

Few Canadian glaciers left by 2100

Mountain glaciers in western Canada could shrink by 70% relative to 2005 levels by the end of the century as a result of global warming.

Garry Clarke of the University of British Columbia in Vancouver, Canada, and his colleagues built a high-resolution model that includes ice dynamics and then ran it with a series of climate scenarios covering the twenty-first century. The model suggests that few glaciers in the Canadian Rocky Mountains (pictured) will persist by 2100, although glaciers in the coastal range of north-west British Columbia could survive "in a diminished state", say the authors.

The team predicts that changes in run-off from the melting glaciers over the course of the century could affect aquatic ecosystems, agriculture, forests, water quality and tourism.

Nature Geosci. **http://dx.doi.org/10.1038/ngeo2407 (2015)**

PALAEONTOLOGY

Mesozoic insect mothering

Insects that care for their young have been around for at least 95 million years, the discovery of an amber-entombed bug from Myanmar suggests.

B. WANG *ET AL.*

All kinds of extant insects care for their offspring, including some species of scale insect (Coccoidea) that hatch their young from egg sacs on their abdomens. Bo Wang at the Nanjing Institute of Geology and Palaeontology in China and his team now provide evidence for such behaviour in a new species of scale insect, *Wathondara kotejai* (**pictured**), which was found in northern Myanmar in a piece of amber 95 million to 105 million years old. Approximately 60 eggs coat the abdomen of the entombed female specimen, and six newly hatched individuals were also preserved in the amber.

eLife 4, **e05447 (2015)**

AVIAN BIOLOGY

Small bird takes big journey

An extraordinary feat of migration has been confirmed in a tiny songbird that weighs just 12 grams.

Blackpoll warblers (*Setophaga striata*) have long been thought to fly non-stop from northeastern North America to the Caribbean or South America. William DeLuca of the University of Massachusetts, Amherst, and his colleagues fitted the birds with 0.5-gram devices that record light levels over time, allowing latitude and longitude to be inferred from the date and the timing of dusk and dawn. Five birds were successfully recaptured, and the data suggested that the birds flew in a straight line over the Atlantic Ocean to the Caribbean, where they made a stop before continuing to wintering grounds in South America.

The journey required three days of non-stop flight and covered some 2,500 kilometres — one of the longest-recorded migrations for a bird of its size, the authors say.

Biol. Lett. **http://doi.org/3ch (2015)**