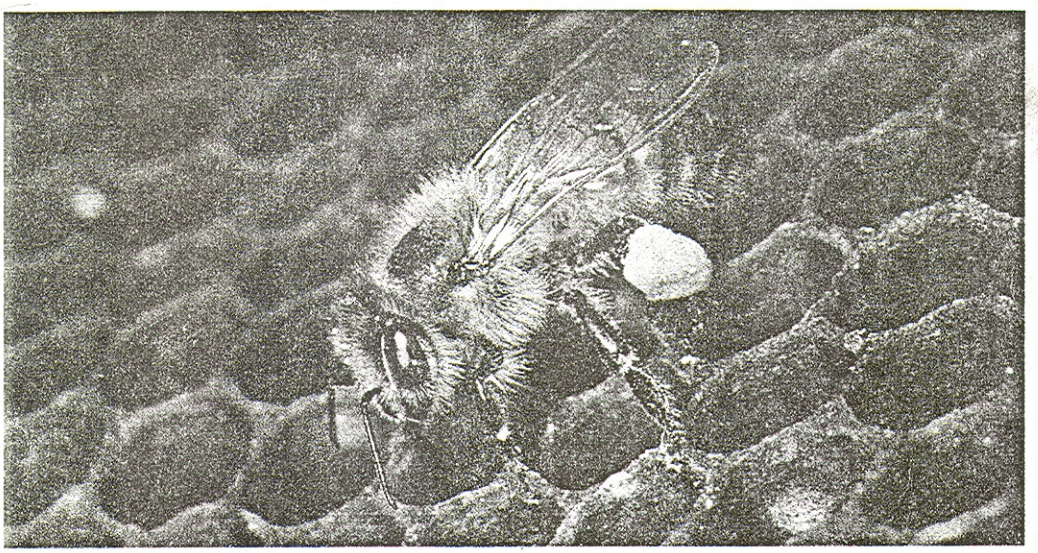
IN BRIEF

Cowardly genes

FEAR may be in our genes. Two teams of geneticists have discovered a stretch of DNA that puts terror in the hearts of mice.

They startled hundreds of rodents with mild electric shocks just after exposing them to a loud sound. After that, the animals were frozen with fear whenever they were placed in the same chamber or heard the noise. DNA analysis showed that a region of the mice's chromosome 1 contributed to a more extreme fear response (*Nature Genetics*, vol 17, p 331 and p 335).

The researchers say that the region probably contains genes that produce proteins in the fear pathway. "It has been very hard to tap into the genetics behind emotions," says Jeanne Wehner of the University of Colorado in Boulder, who led one of the groups. "This is a beginning." The region contains hundreds of genes, so it could take years before the teams pluck out the cowardly ones.



Hans Reinhard/Bruce Coleman

There's no place like comb

BEES are ancient masters of the art of home-building. The discovery of beeswax from the Triassic period shows that they have been lining their brood cells with wax for at least 220 million years.

Paul Kay, an independent scientist from Denver, Colorado, found the wax in a petrified log. He says the bees must have dug the cells in the wood, then lined them with a liquid that quickly solidified into waxy esters.

Petrification later replaced wood fibres with rock, but the waxy compounds remained. Kay found three straight-chained esters containing 28 to 32 carbon atoms in the brood cell walls.

Kay believes the wax survived because it repels water. "While it's buried, water doesn't penetrate through it—silica just entombs it," he said last week at a meeting of the Geological Society of America in Salt Lake City, Utah.

Rolling stones

ROCKS in northwestern Canada have broken the age record. Sam Bowring of the Massachusetts Institute of Technology in Cambridge has found that rocks near the Great Slave and Great Bear lakes, including granite, are 4·03 billion years old.

Their composition suggests that they have experienced subduction processes—the sliding of plates of the Earth's crust under one another. Processes like this must have begun soon after the Earth formed 4·5 billion years ago.

Bowring told the Geological Society of America in Salt Lake City, Utah, that even older rocks probably survive, but finding them will be difficult. "They appear to be just like rocks being formed today," he says. "There's nothing unusual about them."

Who needs insulin?

THE search for treatments for diabetes looks set to take a new direction with the discovery that it may be possible to switch off the body's need for insulin.

Insulin tells the body how to store sugar. Diabetics lack insulin-making cells, or are resistant to the hormone's effects, and can develop dangerously high blood sugar.

Gary Ruvkun and his colleagues at Harvard Medical School say in *Nature* (vol 389, p 978) that a mutation in the gene *DAF-16* of the roundworm *Caenorhabditis elegans* does away with the animal's need for the worm equivalent of insulin.

Scientists have located human equivalents of *DAF-16* and it might one day be possible to treat diabetes by knocking out the gene products. "This could be to diabetes research what the oncogene was to cancer research," says Ruvkun.

See-through chips

A new see-through semiconductor described in this week's *Nature* (vol 389, p 939) could lead to windows that generate electricity as light passes through.

Up until now, transparent semiconductors made from cheap oxides have been of the "n-type", with an excess of electrons. Now scientists at the Tokyo Institute of Technology have created the first transparent p-type oxide semiconductors, with a surplus of "holes", which behave like positive electrons. Sandwiches of n and p-types could be used to make transparent diodes, solar cells and better liquid crstal displays.

Stellar palpitations

AN AGEING star's fluttering pulse has changed its beat. This may be a rare glimpse of stellar evolution in action, astronomers say in this week's *Astrophysical Journal Letters* (vol 489, p 33).

Christine Clement of the University of Toronto and her colleagues observed the star V79, about 30 000 light years away. An "RR Lyrae variable star", it gets brighter and dimmer twice a day as it throbs.

Clement says the star's beat has changed since the 1970s. The star used to pulse in a simple way, but now it has picked up complicated overtones. "Nobody has ever seen a pure mode changing to a double mode," says Clement. Because the mode depends on temperature, the switch may help astronomers to pinpoint V79's evolutionary stage.