observed using a mass spectrometer. We have duplicated this experiment, and find that there are signals both at mass 5 and at mass 6; both are readily detected using a quadrupole mass spectrometer when the D_2 pressure in the system exceeds 10^{-9} mbar. These ions can also be generated, however, by admitting D_2 to the system. Ions of mass 5 and 6 are isotopically substituted H_3^+ ions, D_2H^+ and D_3^+; H_2 is always present as a background gas. The H_3^+ ion has a history as old as mass spectrometry itself[6,7] and is well recognized as the product of reactions inside the mass spectrometer[8], although the analysis has been carried out at pressures higher than those used here. The intensities of the various H_3^+ ions have nonlinear dependencies on pressure, and because the pressure increases in an electrolysis experiment, the concomitant intensity changes could be misinterpreted as the result of a time-dependent process.

M. E. BRIDGE
D. R. LLOYD

Department of Chemistry,

J. M. D. COEY

Department of Physics,
Trinity College,
Dublin 2, Ireland

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Delayed birth

SIR—In North America, the gestation period of the nine-banded armadillo (*Dasypus novemcinctus*) is usually 8–9 months, which includes a 3–4-month period of delayed implantation of the blastocyst before embryo growth. We recently reported that 20 armadillos captured during the period when blastocysts usually implant (November–February) underwent embryonic diapauses of an additional year, which were probably induced by stress of capture[1]. In one case, however, the embryos remained dormant for two years.

We have now observed a prolonged diapause in a second animal. The female was captured in November 1986 and immediately isolated from males. She bore no young during 1987 or 1988. But in February 1989, 30–32 months after her last mating season in the wild, she produced a litter of three living males.

These observations leave no doubt that armadillo embryos can survive *in utero* for at least 2–3 years. Are multiyear delays in birth peculiar to armadillos, or can they occur in other mammals, particularly those with a prolonged reproduction delay, such as the European badger (*Meles meles*), which normally has a diapause of 10 months, or the wolverine (*Gulo gulo*), which has a diapause of 6–8 months[2]? We urge anyone who studies newly caught wild mammals to look for this phenomenon.

ELEANOR E. STORRS
H. P. BURCHFIELD

Florida Institute of Technology,
Melbourne, Florida 32901, USA

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Cell identity resolved

SIR—Stratton *et al.* recently pointed out[1] that the putative medulloblastoma cell line TE671 "is most probably a subline of the rhabdomyosarcoma cell line RD". Having carried out a cytogenetic study, we support that view.

The TE671 cell line (ATCC HTB 139) came to the American Type Culture Collection (ATCC) in 1982[2] from the Naval Biosciences Laboratory, which received the cell stock from the originator's laboratory[3] in 1977. ATCC's TE671 distribution stock was prepared and released as HTB 139 in 1983.

As a result of the report of Stratton *et al.*, we reinvestigated the cytogenetics of both HTB 139 and the seed and distribution stocks of the RD cell line (ATCC CCL 136)[2,3], the last of which was accessioned in 1969. The modal number of chromosomes in HTB 139 is 47 but 42 per cent of the cells have 48 chromosomes; the karyotypes are similar to those reported previously for the cell line[3,4]. For both RD stocks, the modal chromosome count is 48. RD and TE671 have very similar karyotypes. A few markers are specific to each cell line but such differences are common in mixed cultures of different cell lines[5,6]. In conclusion, TE671 is undoubtedly a derivative of the RD. A detailed cytogenetic study on both RD and TE671 cells, together with the characteristics of their DNA variable number of tandem repeats (VNTR), will be reported.

T. R. CHEN
C. DOROTINSKY
M. MACY
R. HAY

American Type Culture Collection,
12301 Parklawn Drive,
Rockville, Maryland 20852-1776, USA

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Origin of soil magnetite

SIR—Maher and Taylor[1] misinterpreted our previous work[2] when they concluded that the ultrafine-grained magnetite they extracted from soils could not have resulted from the activity of dissimilatory iron-reducing bacteria such as strain GS-15. Although the magnetite they extracted from soils resembles the magnetite produced during the metabolism of GS-15, they excluded dissimilatory iron reduction as the source for this magnetite on the basis that there were no bacterial cells associated with the soil magnetite. But the magnetite produced by GS-15 is extracellular and is not firmly attached to the cells. The technique that Maher and Taylor used to extract the magnetite from soil does not extract non-magnetic bacterial cells such as GS-15. Thus, the evidence that they present does not exclude the possibility that the production of the soil magnetite is the result of the activity of dissimilatory iron-reducing bacteria.

DEREK R. LOVLEY

Water Resources Division,
US Geological Survey,
Reston, Virginia 22092, USA

JOHN F. STOLZ

Department of Biochemistry,
University of Massachusetts,
Amherst,
Massachusetts 01003, USA

MAHER AND TAYLOR REPLY—As we stated, it is difficult to distinguish between soil-formed magnetites and biological (GS-15 type) magnetites, owing to their similar shape, purity and magnetic properties. Furthermore, as Lovley and Stolz observe, our work on the soil magnetites did not attempt specific biological analyses. Nevertheless, our identification of soil magnetite as a product of inorganic, soil-forming processes is substantiated by, first, our demonstration of a totally non-biological pathway of magnetite formation, which produces quantities of ultrafine-grained magnetite rapidly and easily, under conditions characteristic of the soil environment[3]; and second, by the occurrence of the soil magnetite in well drained, oxidized soil profiles, an environment inimical to the anaerobic biological activity reported for GS-15[2].

B. A. MAHER

School of Environmental Sciences,
University of East Anglia,
Norwich NR4 7TJ, UK

R. M. TAYLOR

CSIRO, Division of Soils,
Glen Osmond,
South Australia

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