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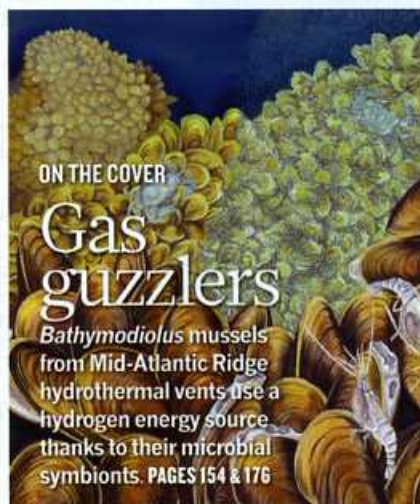
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#### 176 MICROBIOLOGY Hydrogen is an energy source for hydrothermal vent symbioses

J M Petersen et al. SEE N&V P. 176



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*Bathymodiolus* mussels from Mid-Atlantic Ridge hydrothermal vents use a hydrogen energy source thanks to their microbial symbionts. PAGES 154 & 176

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#### 185 PHYSICS Quantum gates and memory using microwave-dressed states

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#### 189 PHYSICS Perpendicular switching of a single ferromagnetic layer induced by in-plane current injection

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#### 194 CLIMATE SCIENCE Reduced methane growth rate explained by decreased Northern Hemisphere microbial sources

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#### 198 CLIMATE SCIENCE Recent decreases in fossil-fuel emissions of ethane and methane derived from firn air

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#### 202 CLIMATE SCIENCE C<sub>4</sub> grasses prosper as carbon dioxide eliminates desiccation in warmed semi-arid grassland

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#### 206 EVOLUTION Initial radiation of jaws demonstrated stability despite faunal and environmental change

P S L Anderson, M Friedman, M D Brazeau & E J Rayfield

#### 210 NEUROSCIENCE Neuronal basis of age-related working memory decline

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#### 214 DISEASE Genetic risk and a primary role for cell-mediated immune mechanisms in multiple sclerosis

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#### 224 STEM CELLS Direct generation of functional dopaminergic neurons from mouse and human fibroblasts

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#### 240 CORRIGENDUM Migrastatin analogues target fascin to block tumour metastasis

L Chen, S Yang, J Jakoncic, J J Zhang & X-Y Huang

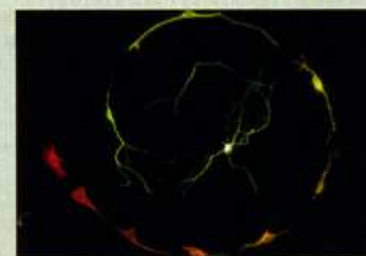
#### 240 CORRIGENDUM Structure of a bacterial quorum-sensing transcription factor complexed with pheromone and DNA

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### STEM CELLS

## Potent mix

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