Brewster C. Denny
University of Washington (emeritus), 2021 First Avenue, Seattle, WA 98121, USA

Elevated Atmospheric CO_2 and Soil Biota

In their report "Impacts of rising atmospheric carbon dioxide on model terrestrial ecosystems" (17 Apr., p. 441), T. H. Jones *et al.* found that elevated atmospheric carbon dioxide (CO_2) alters the composition of soil fungi and Collembola, but has no effects on total microbial biomass and bacterial composition in model Ecotron ecosystems.

Plant production in many terrestrial ecosystems is nitrogen (N)-limited, and elevated CO_2 generally stimulates plant growth, carbon allocation below-ground and strengthens the plant N sink, intensifying plant-microbial competition for N in soil (*1*). Enhanced C inputs and reduced N availability in soil may result in a surplus of C relative to N and thus benefit fungi over bacteria (*2*), leading to a soil microbial community of greater fungal dominance (*3*).

Collembolan grazing of mutulistic, pathogenic, and saprophytic fungi may become more important in regulating microbial community structure and plant-microbe interactions (*4*) and potentially in feed-back to elevated CO_2 by modifying decomposition, nutrient cycling, and plant community structure. The results observed by Jones *et al.* may therefore be the result of C and N interactive controls on microbial community structure and activity resulting from elevated CO_2. These model ecosystems may thus reveal C- and N-mediated microbial feedback mechanisms important in natural ecosystems under elevated CO_2.

Shuijin Hu
Department of Integrative Biology, University of California, Berkeley, CA 94720–3140, USA, E-mail: sh68hu@socrates.berkeley.edu

Mary K. Firestone
Environmental Science, Policy, & Management, University of California, Berkeley, CA 94720, USA

F. Stuart Chapin III
Department of Integrative Biology, University of California, Berkeley

References and Notes

1. S. Hu *et al.*, unpublished material.
2. E. A. Holland and D. C. Coleman, *Ecology* **68**, 425 (1987).
3. J. N. Klironomos, M. C. Rillig, M. F. Allen, *Funct. Ecol.* **10**, 527 (1996).
4. J. Lussenhop, *Adv. Ecol. Res.* **23**, 1 (1992).
5. S. Hu is supported by the National Science Foundation under a fellowship awarded in 1996.

Geomagnetic Reversals

In their report "Lake Baikal record of continental climate response to orbital insolation during the past 5 million years" (7 Nov. 1997, p. 1114), D. F. Williams *et al.* present a sedimentary record of biogenic silica from Lake Baikal in Siberia. Magnetic polarity reversal data provided age control points that were used to arrive at a constant and continuous sedimentation rate of 4 centimeters per thousand years. In figure 1A of the report (p. 1115), a reference geomagnetic polarity time scale shows a number of short periods of normal polarity that do not appear in the references (*1*) listed in that figure. These periods appear to be based on the magnetic inclination record derived from the Lake Baikal samples, but are not shown in another publication related to the Baikal Drilling Project (*2*). "Events" at about 0.85, 1.2, and 2.4 million years ago appear to be the Kamikatsura, Cobb Mountain, and "X" subchrons, respectively (*3*). Normal events at about 1.55 and 2.03 million years ago do not appear in reference geomagnetic polarity time scales. The latter may argue for a split Reunion Event (*4*), although only a single event has been dated at 2.14 million years ago in the "type locality" (*5*).