References

1. D. Blockstein and H. Tordoff, *Am. Birds* **39**, 845 (1985).
2. A. Schorger, *The Passenger Pigeon* (Univ. of Wisconsin Press, Madison, WS, 1955).

■

The Paleobotanical Record

Richard A. Kerr's article "Comet shower hit, but life didn't blink" (News, 30 Jan., p. 652) reports on Kenneth Farley's interpretation of elevated helium-3 levels as an indicator of comet dust in Eocene ocean sediments and their temporal correlation to large impact craters and shocked quartz crystals. Helium values peaked at 35.5 million years ago (Ma) and tapered off over the 2 million years that followed. From these lines of evidence, experts are said to have concluded that, during this time, there was a terrestrial comet impact but, the article states, "What's missing is any sign that the shower affected life," for the biota was left "unscathed."

Although mass extinctions are not known from the paleobotanical record at this time, a major climatic cold snap—and consequent botanical change—did occur throughout North America about 34 to 33 Ma (*1*). This corresponds with the Eocene-Oligocene boundary (*2*) and the subsequent million years. The paleobotanical evidence thus suggests to me a climate-altering blow, with (i) an abrupt decrease in the mean annual temperature, (ii) an increase in the mean annual range of temperatures, and (iii) floras adapted to these colder temperature regimes (*1*).

Patrick F. Fields
Michigan State University,
Lansing, MI 48824–1312, USA
E-Mail: fieldspa@pilot.msu.edu

References

1. H. D. MacGinitie, *Carnegie Inst. Wash. Publ. 599* (1953), p. 1; J. A. Wolfe and D. M. Hopkins, in *Tertiary Correlations and Climatic Changes in the Pacific*, K. Hatai, Ed. (Sasaki, Sendai, Japan, 1967), pp. 67–76; J. A. Wolfe, *Paleobot. Paleoecol. Evol.* **2**, 79 (1981); *Am. Sci.* **66**, 694 (1978); S. L. Wing, *Ann. Mo. Bot. Gard.* **74**, 748 (1987); J. A. Wolfe, in *Eocene-Oligocene Climate and Biotic Evolution*, D. R. Prothero and W. A. Berggren, Eds. (Princeton Univ. Press, Princeton, NJ, 1992), pp. 421–436.
2. D. R. Prothero and W. A. Berggren, Eds., *Eocene-Oligocene Climate and Biotic Evolution* (Princeton Univ. Press, Princeton, NJ, 1992).

■

Free Calcium Signals

The commentary "Calcium signaling: Up, down, up, down.... What's the point?" by James W. Putney Jr. (*Science*'s Compass, 9 Jan., p. 191) incorrectly states that free calcium signals were first seen within living cells just over a decade ago. In fact, they were first "seen" over three decades ago as transients from single, twitching barnacle muscle fibers (*1*) and first imaged two decades ago as intense waves or tsunami through fertilizing medaka fish eggs (*2*). In both cases, calcium was seen by means of chemiluminescent aequorin rather than the fluorescent reporters that are more widely used now. However, photoproteins like aequorin retain decisive advantages for the study of many key problems in developmental, cell, and neurobiology (*3*).

Lionel F. Jaffe
Calcium Imaging Lab,
Marine Biological Laboratory,
Woods Hole, MA 02543, USA
E-mail: ljaffe@mbl.edu

References

1. E. B. Ridgway and C. C. Ashley, *Biochem. Biophys. Res. Commun.* **29**, 229 (1967).
2. C. Gilkey, L. F. Jaffe, E. B. Ridgway, G. T. Reynolds, *J. Cell Biol.* **76**, 448 (1978).
3. A. L. Miller, E. Karplus, L. F. Jaffe, *Methods Cell Biol.* **40**, 305 (1994).

■

CIMMYT Budget

I read with concern the article "Midlife crisis threatens center for semiarid crops" by Pallava Bagla (News & Comment, 2 Jan., p. 26). ICRISAT (the International Crops Research Institute for the Semi-Arid Tropics) is an important "sister" research institute that has made major contributions to ensuring food security for the poor in developing countries, and to see them having to cope with such budget difficulties is distressing. Other centers in the global research network have, as the article notes, been experiencing similar financial problems.

In the late 1980s, the management of CIMMYT (Centro Internacional de Mejoramiento de Maiz y Trigo—the Mexico-based maize and wheat research center) began a fundamental restructuring of the center in anticipation of the funding crisis that has since engulfed other international research centers. That restructuring involved significant streamlining and refocusing of our work, and phased staff reductions were a part of the repositioning strategy until late 1992. Even though our "core" funding has declined in the 1990s, we have more than made up for it by special-project fundraising, and we have experienced no layoffs or severe budget shortfalls in the last 5 years. Nor did CIMMYT impose layoffs in 1997 because of budget cuts, as the article states.

Tiffin D. Harris
Director of External Relations,
CIMMYT,
Apdo. Postal 6-641,
06600 México, D. F., México