

SCIENCE

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LETTERS

Audit at Woods Hole

The 29 January ScienceScope item "WHOI slips into \$14 million hole" (p. 587) says that auditors told the Office of Naval Research (ONR) that "WHOI . . . paid staff for time when records show they weren't actually working." This is not true. While the Woods Hole Oceanographic Institution has been under the same increased audit scrutiny experienced by other academic research institutions, there has been no charge that its employees were paid for time not worked. Our overhead structure, which differs from that of most universities, requires the use of timecards by all staff. What we are discussing with ONR is how to appropriately assign scientists' time to individual projects when the staff does not work the 9 a.m. to 5 p.m. time periods generally found in industry. By the very nature of scientific research, our staff works evenings, weekends, and in the early hours of the morning and routinely puts in many hours more than the traditional 40-hour work week.

I am proud of the dedication and hard work of our employees and students and their contributions to knowledge of the Earth's oceans. The U.S. taxpayer gets full measure—and more—from federal funds awarded to our institution.

Craig E. Dorman

Director,

*Woods Hole Oceanographic Institution,
Woods Hole, MA 02543*

Drugs from Third World Plants: Creative Approaches

Thomas Eisner and Ignacio Chapela (Letters, 15 Jan., p. 294) suggest that Carl Djerassi (Letters, 9 Oct., p. 203) and I (Letters, 14 Aug., p. 860) focused only on "whether the pharmaceutical industry is retroactively indebted for its successful development of natural products" and not on "whether, as a matter of self-interest," we should have some economic custodial relationship with nature. I thought we both also spoke to other issues.

The relationship between drug companies and drug sources should be based, at least in part, on logic and contribution. I said (14 Aug., p. 860) that a special case should be made for "an ethnobotanist working with a shaman in a rain forest. . . ." Shaman Pharmaceuticals, a young Califor-

nian company, is a case in point. Its team includes a physician who confirms the pathological conditions being treated. Shaman Pharmaceuticals has pledged to pass up endangered plants and is committed to furnishing royalties from drug revenues to the government and to the native communities where the plant was originally harvested. I support this approach as well as the Merck-INBio agreement in Costa Rica.

The pharmaceutical industry alone will not be able to save the biosphere. Enlightened, imaginative, and cooperative approaches at a variety of institutional, governmental, and societal levels may have a chance of fulfilling the spirit of the biodiversity treaty.

Irving S. Johnson*

4601 Rue Belle Mer,
Sanibel Island, FL 33957

*Former vice president of research, Eli Lilly and Co.

No Lack of NO Activity

We are delighted that one of our favorite molecules has hit the big time ("Molecule of the Year," 18 Dec., p. 1862). We agree with Jonathan S. Stamler *et al.* (Articles, 18 Dec., p. 1898) that the nitric oxide (NO) chemistry relevant to physiological function necessarily includes the properties of redox-related species as well as NO itself, particularly (but not exclusively) those in the neighboring +1 and +3 oxidation states. Among the potentially most significant of these is the reactive anion NO⁻, conjugate to the molecule nitrosyl hydride (HNO).

More needs to be learned about this species, but a considerable body of recent literature exists on "the chemistry of NO⁻ in aqueous solution." Only one reference is given by Stamler *et al.* to the frequent accounts of HNO/NO⁻ formation in the literature of radiation chemistry (1). The remarkable reaction of NO⁻ with two molecules of NO to form N₂O and NO₂⁻, first reported by Grätzel *et al.* (1) and seen at thermal reaction energies (2), is not mentioned. A reaction between NO⁻ and NO₂⁻ has been demonstrated in the reversibility of the trioxodinitrate decomposition reaction (3, 4), and a similar reversibility has been found for the case of NO⁻ produced in *N*-hydroxybenzenesulfonamide decomposition (5). Reduction of NO⁻ to N₂ by hydroxylamine, in pH- and concentration-dependent competition with dehydrative dimerization, has been shown (6), and NO⁻