

and toxicity of aluminum. We welcome the opportunity to have attention called to papers showing the effect of acid rain on base cation leaching at other sites in the Northern Hemisphere.

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Herbivory in Soft Corals: Correction

We have demonstrated the ability of several azooxanthellate soft corals to feed on phytoplankton (Reports, 7 Apr. 1995, p. 90) (1). The conversion of gut fluorescence values to chlorophyll concentrations yields nanograms of chlorophyll in the gastrovascular system of *Dendronephthya hemprichi*, not micrograms, as we erroneously stated. Hence the data presented in our "third line of evidence" for herbivory, and in figure 1B, should have read "Chlorophyll a content (nanograms per polyp)" instead of microgram. Gut chlorophyll contents of well-fed *D. hemprichi* are thus comparable to those of herbivorous copepods with similar body weight (2). As these corrections could change our conclusion with regard to herbivory in *D. hemprichi*, we have estimated

the coral's feeding rate using a new approach, based on in situ measurements of chlorophyll removal from natural seawater. Chlorophyll a concentrations in seawater upstream of large *D. hemprichi* colonies were compared with those downstream of the corals with a time lag between pairs of samples equal to the water passage time through the coral thickets. On average, *D. hemprichi* removed 0.035 microgram per liter $\pm$ 0.064 (SD) or 6.4% $\pm$ 11.6 of chlorophyll at a mean flow speed through the colonies of 3.5 centimeters per second. This removal rate is equivalent to an uptake of 16.34 milligrams of phytoplankton carbon per gram of ash-free dry weight (AFDW) of the coral per day, which is 2.5 to 3.6 times the corals' daily respiratory carbon demand (3). The chlorophyll depletion of the water and recent electron microscopic documentation of digested algal cells within the endodermal tissue of the polyps suggest that our finding of herbivory in these soft corals is valid. However, our initial method of analyzing gut fluorescence underestimated the actual rates of intake and digestion of phytoplankton by *D. hemprichi*.

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3. Colony, 0.555 ± 0.270 gram of AFDW per milliliter; conversion factor for carbon/chlorophyll a, 60; respiration, 6.46 ± 1.32 milligrams of carbon per gram of AFDW [K. E. Fabricius, A. Genin, Y. Benayahu, *Limnol. Oceanogr.* **40**, 1290 (1995)]. Epifluorescent microscopy confirmed that algae or epizoon did not adhere to the surface of colonies.



Diffusion to a Different Drummer

In their interesting report "NMR studies of single-file diffusion in unidimensional channel zeolites" (3 May, p. 702), Volka

Kukla *et al.* refer to the application of single-file diffusion to ion transport in membrane channels. But there appears to be an important difference between these processes, at least in the relatively well-characterized case of the ion channel gramicidin. In zeolites, vacancies are assumed to effectively diffuse through a string of molecules independently (1). The pore of gramicidin contains about 10 molecules in single file, including waters and perhaps one or two ions (2). Molecular dynamics simulations suggest that the movements of ions and waters within the pore are synchronized (2, 3). Under these conditions, a standard diffusion coefficient governs the long-time behavior of the center of mass mean square displacement (4)

$$\langle z^2(t) \rangle = 2Dt$$

where z is the spatial coordinate along the pore axis, t is time, and D is the diffusion coefficient of the pore contents.

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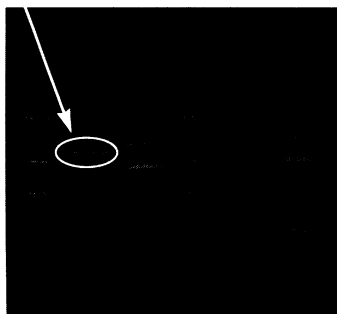
Extinction Rates

In their 21 July 1995 article, "The future of diversity" (*Frontiers in biology: Ecology*, p. 347), Stuart L. Pimm *et al.* incorrectly attribute to me the assertion that "one (or a few) species per year" are going extinct. They go on to say that "Simon's claims . . . are not scientifically credible." In the very book they cite is the following disclaimer (1, p. 206):

It is entirely inaccurate to say, as Mr. Myers does [the book is a debate between Norman Myers and me], that I have made any estimates of extinction rates. I have never written or spoken such a sentence.

My position is as different as can be from what Pimm *et al.* and others repeatedly say I said, to wit: There *only is evidence* for one or a few species a year going extinct, mainly birds or mammals. Of course, many other species

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