

consist of at least one population, the average populations per area of a species cannot be less than 1 divided by the species' range size. In other words, there are impossible combinations of ranges and numbers of populations per area (where both are small). This constraint is not sufficient to deduce a negative correlation between the variables.

We also caution against drawing conclusions about a correlation from our data. Although the data are suitable to make a conservative, first approximation of population diversity, there are at least two biases that could make correlations calculated from them inaccurate or spurious. First, the species range estimates are inflated to unknown degrees. Range maps delimit the extent of occurrence of a species, but often much of the area will not be "filled-in" by populations. Second, our estimate of population differentiation is a lower bound. The number of sites sampled in each study limits the estimate of populations per area.

Of course, there may actually be a negative correlation. Using information in the literature on population differentiation and range size for the same species would help resolve the covariance question if sufficient data were available. One potential bias with this method, though, is that researchers studying population differentiation may sample narrowly distributed species more intensively

(at smaller geographic intervals) than species with larger ranges.

Finally, we agree with both Myers (in his Perspective) and Chan that preserving the evolutionary potential of a species is important, yet we doubt that this argument will provoke major changes in policies. On the other hand, the costs of ecosystem service losses that accompany population extinctions are measurable and increasingly appreciated (1). It may be that another level of biodiversity besides that of populations better captures the quality of ecosystem services, but the loss of genetically distinct populations will certainly be positively correlated with their decline. Our main concern is that species extinction rates, which are those almost exclusively cited, do not fully capture the loss of the benefits of biodiversity (2).

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References

1. G. C. Daily, Ed., *Nature's Services: Societal Dependence on Natural Ecosystems* (Island, Washington, DC, 1997).
2. J. B. Hughes, G. C. Daily, P. R. Ehrlich, in *Nature and Human Society*, P. Raven, Ed. (National Academy Press, Washington, DC, in press).

Corrections and Clarifications

■ The photograph of the large comet on page 1533 of the 5 June issue should have been credited as follows: "Julian Baum/SPL/Photo Researchers, Inc."

■ The Research News article "New role for estrogen in cancer?" by Robert F. Service (13 Mar., p. 1631) referred to work reported in *Carcinogenesis* by Tom Sutter of Johns Hopkins University and his colleagues. The work was performed by David Spink at the New York State Department of Health in Albany, Sutter, and their colleagues.

Letters to the Editor

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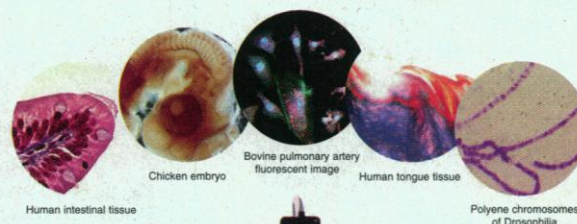
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