Herbivory in Soft Corals: Correction

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Letters

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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 thicket. On average, *D. hemprichi* removed 0.035 microgram per liter ± 0.064 (SD) or 6.4% ± 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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References and Notes

1. K. E. Fabricius, Y. Benayahu, A. Genin, *Science* 268, 90 (1995).
2. M. R. Landry, W. K. Peterson, V. L. Fagerness, *Mar. Ecol. Prog. Ser.* 115, 55 (1994); M. R. Landry, C. J. Lorenzen, W. K. Peterson, *ibid*., p. 73; W. T. Peterson, S. J. Painting, L. Hutchings, *J. Plankton Res.* 12, 259 (1990).
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.

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