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Supplementary Materials for

Nutritional input from dinoflagellate symbionts in reef-building corals is minimal during planula larval life stage

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This PDF file includes:

Other Supplementary Material for this manuscript includes the following:
(available at advances.sciencemag.org/cgi/content/full/2/3/e1500681/DC1)

Data file S1 (Microsoft Excel format). Summary tables of NanoSIMS isotopic measurements and statistical analyses.

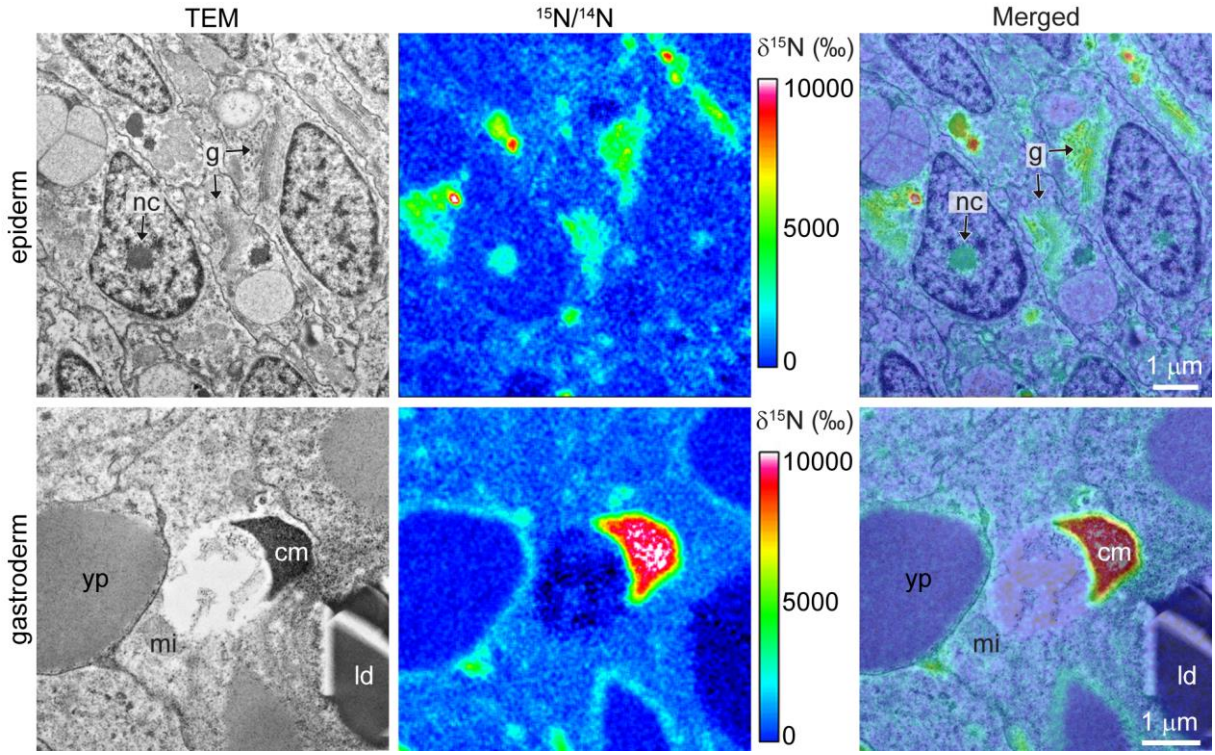

fig. S1. High-resolution imaging of ^{15}N distribution in coral cells of planulae exposed to [^{15}N] ammonium. Representative TEM micrographs, corresponding NanoSIMS $^{15}N/^{14}N$ isotopic maps, and merged images of epiderm and gastroderm tissues, after 6 hours of exposure to [^{15}N] ammonium. rcm, crescent-moon shaped coral cell structure; g, Golgi body; ld, lipid droplet; mi, mitochondrion; nc, nucleolus; yp, yolk platelet.

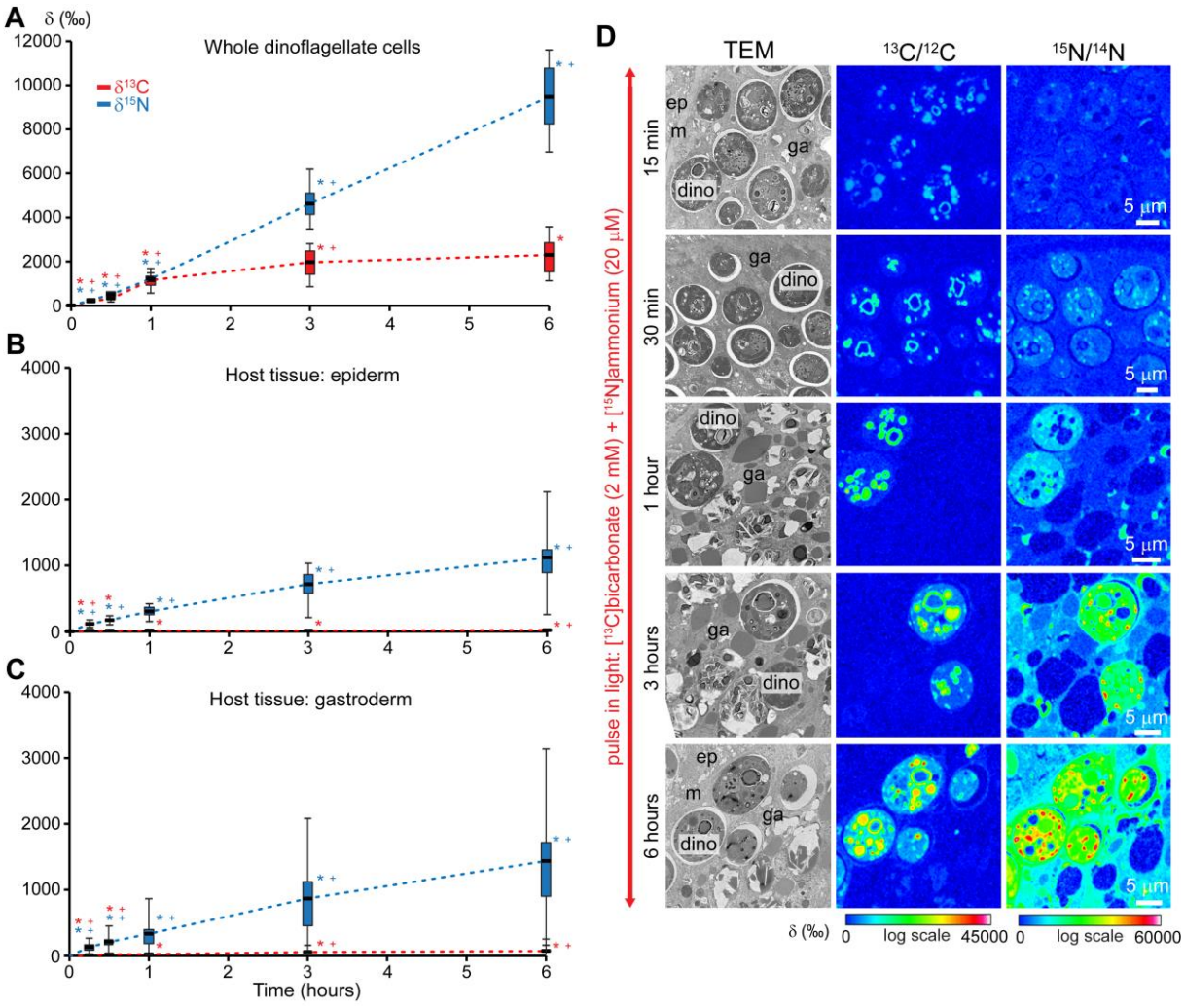

fig. S2. Ammonium assimilation by newly released coral planulae. (A, B, C) Average ^{13}C- and ^{15}N-enrichments measured by NanoSIMS in dinoflagellate cells, the coral epiderm, and the coral gastroderm, respectively, during the 6-hour pulse of labeling in light with [^{13}C] bicarbonate (2 mM) and [^{15}N] ammonium (20 µM). Individual data and statistical significance are reported in additional data file 1. (D) Time-sequence visualizing the dynamics of C and N assimilation in the dinoflagellate-containing coral gastroderm during the pulse experiment. Each row contains a TEM micrograph and its corresponding NanoSIMS isotopic ^{13}C/^{12}C and ^{15}N/^{14}N ratio images. [^{15}N] ammonium is rapidly and simultaneously assimilated by both partners, but with a strong preference for the dinoflagellates, consistent with previous studies. dino, dinoflagellate; ep, epiderm; ga, gastroderm; m, mesoglea.

Data File 1 contains summary tables of NanoSIMS isotopic measurements and statistical analyses.