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## ***Interactive comment on “Bioerosion by euendoliths decreases in phosphate-enriched skeletons of living corals” by C. Godinot et al.***

**Anonymous Referee #2**

Received and published: 8 May 2012

The manuscript introduces new and unexpected consequence of nutrient fluxes affecting the relationship between corals and microbial euendoliths penetrating skeletons of live corals. Whereas most studies pay attention to one or the other of these interacting entities in coral symbiosis, this study appropriately evaluates the dynamic relationship of two interdependent activities. Phototrophic boring microorganisms in growing corals operate under conditions of “moving target” in which a successful coral growth places the light dependent euendolith in a disadvantageous position. If the nutrient requirements for zooxanthellate corals and the skeletal euendoliths are not identical, their equilibrium may depend on nutrient ratios.

The results documented in this paper bear relevance in explaining the rhythmicity of coral growth and of the frequently observed endolithic green zones in coral skeletons.

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This contribution deserves to be accepted for publication after minor modifications. The suggested changes are identified by pages and lines with comments in parentheses.

Abstract p. 2426

Line 8 change: /*S. pistillata* /to: /*Stylophora pistillata* /(full name when first appears in Ms.)

Line 12 change: mainly autotrophic to: mainly phototrophic

Line 24 change: euendolith colonization to: expansion of endolith growth

p. 2427

Line 2change: autotrophic and heterotrophic to: phototrophic and organotrophic (these terms are technically correct, but differ regarding carbon vs. energy source. In the context of the paper the latter is a better choice as suggested)

Line 24 change: eutrophicated to: eutrophied

p. 2434

Line 4 change: negative to: relatively negative (or ..in relation to the stimulus to coral growth)

Fig. 2 caption (the caption is too long and yet unclear)

Line 2 change: across to: along

Lines 3-4 change: petrographic thin section of half nubbins to: longitudinal petrographic thin section of the nubbins

Lines 5-6 remove the text: The portions on the left of the dashed lines represent the length of the skeletons at the beginning of the enrichment, and on the right the portion grown over the course of the 15 weeks-enrichment (estimated from differences in nubbins length between the beginning and the end of the enrichment - And replace the text with: dashed lines mark the nubbin tips at the beginning of the experiment.

C1069

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Interactive comment on Biogeosciences Discuss., 9, 2425, 2012.

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