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Title: Coral-algal associations: capacity for producing and sustaining elevated oxygen tensions in situ

Authors: D'Aoust, BG
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Issue Date: 1976

Abstract: Net oxygen production during photosynthesis by all plants requires adaptation to intracellular O2 tensions in excess of 0.21 ATA. The symbiotic association of zooxanthellae (algae) in the tissues of many actinozoans and hydrozoans (corals and anemones) suggests such an adaptation in these tissues as well, and raises the question as to degree. Oxygen production by zooxanthellae in a single coral head of Montastrea cavernosum was monitored daily in situ in a closed, recirculating 15-liter system. The net photosynthetic activity repeatedly raised the PO2 to more than 0.5 ATA, indicating that even higher tensions existed in the coral's tissues in order to cause this increase and suggesting that coral tissue may represent another example of an oxygen-adapted tissue. *Adaptation, Biological Algae Animals *Oxygen Partial Pressure Photosynthesis Support, U.S. Gov't, Non-P.H.S. Support, U.S. Gov't, P.H.S. Symbiosis

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