

## UTILIZATION OF DISSOLVED INORGANIC NUTRIENTS OF ZOOXANTHELLAE CELLS OF TRIDACNID CLAMS

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### ABSTRACT

There was a net daily uptake of ammonium and nitrogen by the zooxanthellae cells of Tridacnid clams from the natural sea water. This uptake was modulated according to nutritional environment, light environment, ammonium concentration and possible biological rhythmicity. The zooxanthellae cells take up dissolved inorganic nitrogen in the form of ammonia/ammonium (NH<sub>3</sub>) or nitrate (NO<sub>3</sub>), as shown by depletion of these from the medium. Rates of uptake were 10 times higher in light than in darkness. The zooxanthellae cells were reported to take up NH<sub>3</sub> at a higher rate than NO<sub>3</sub>. In addition, this study demonstrates reduced rates of NO<sub>3</sub> uptake in the presence of NH<sub>3</sub>. Zooxanthellae cells supplied with additional NH<sub>3</sub> and NO<sub>3</sub> showed two to three times higher division rates than those of the control.