

EFFECTS OF INCREASED TEMPERATURE AND COPPER EXPOSURE ON PHYSIOLOGICAL PERFORMANCES AND SEDIMENT REMOVAL OF THE GIANT CLAM *TRIDACNA SQUAMOSA*

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The Gulf of Thailand is only one of numerous areas where extensive coral bleaching have been reported in 1998. The widespread phenomena have primarily been explained with increased water temperature stress due to El Nino. As well as corals giant clams also maintain a symbiotic relationship with photosynthesising microalgae (zooxanthellae), and expulsion of symbionts, i.e. bleaching, has been recorded for some of these species. Along with increased water temperature, the Gulf of Thailand also receives high inputs of anthropogenic pollution, such as heavy metals. In this study we investigate the physiological effects of increased water temperature and copper exposure on *Tridacna squamosa*, a species native to Thai waters although natural stocks are declining. In the copper experiment the clams were exposed to 50 μg Cull, and in the temperature study the clams were subjected to a temperature raise of three degrees. After a short term (12h) exposure the net production in natural light and oxygen consumption in darkness were measured. GP/R ratios for controls and exposed clams were calculated on one-hour basis. The results of this study clearly show that both stresses cause significant decrease in GP/R ratios, although caused by different stress responses. In clams exposed to copper, the decrease in GP/R is