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ABSTRACTS SUBMISSION FORM

Abstract

REPRODUCTIVE ECOLOGY OF *DIADEMA SETOSUM* FROM CORAL COMMUNITIES IN THE GULF OF THAILAND

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Basic data on reproductive ecology of *Diadema setosum* are very important for coral reef management and implications for mariculture as well. Sea urchin often plays major roles in controlling macroalgal populations and organizes structures of shallow subtidal communities. *D. setosum* is the most common sea urchin found in Thailand waters. The present study examine reproductive ecology of *D. setosum* from coral communities at Khang Khao Island, Chonburi Province, and Samet Island, Rayong Province, in the Gulf of Thailand during July, 2000 to September, 2002. Averages of recruit densities of *D. setosum* in January, July, October, 2001 and September, 2002 at Khang Khao Island were 2.33 ± 0.41 (mean \pm SE), 2.31 ± 0.56 , 2.60 ± 0.70 and 3.13 ± 0.78 individuals/m², respectively. While those at Samet Island in July, September, 2000 and April, July, 2001 were 0.45 ± 0.001 , 0.42 ± 0.005 and 0.44 ± 0.003 , 0.49 ± 0.004 individuals/m², respectively. Recruits of *D. setosum* were found mainly on three types of substrate, i.e, dead coral, live coral and other hard substrate. Sea urchin recruits on dead coral were higher than those on hard substrate and live coral, respectively. Means of recruit density of *D. setosum* on dead coral, live coral and hard substrate in September, 2002 were 4.33 ± 0.76 (mean \pm SE), 1.67 ± 0.42 and 3.40 ± 1.16 individuals/m², respectively. The sex ratio of *D. setosum* was 1:1. As sea urchin gonads (roe) are good for human consumption and high potential for commercial aquaculture. *D. setosum* is a species of economic interest. Gonads of *D. setosum* varied considerably in each sample, and ranged from dark brown or black through shades of ochre, orange, yellow and pale cream with no relation to sex. Young immature gonads tended to soft and smooth. The present study provides basic information for development of commercial cultivation of *D. setosum* in Thailand.

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