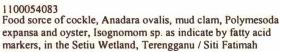
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# FOOD SOURCE OF COCKLE, Anadara ovalis, MUD CLAM, Polymesoda expansa AND OYSTER, Isognomom sp. AS INDICATE BY FATTY ACID MARKERS, IN THE SETIU WETLAND, TERENGGANU.

# By: Siti Fatimah Binti Hashim

Research report submitted in partial fulfillment of the requirements for the degree of Bachelor of Science (Marine Biology)

Department of Marine Science
Faculty of Maritime Study and Marine Science
UNIVERSITI MALAYSIA TERENGGANU
2007

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EXPANSA AND OYSTER, ISOGNOMOM SP. AS	INDICATE BY FATTY ACID		
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	2006.	

#### LIST OF ABBREVIATION

 $\omega$  = Omega

 $\mu g g^{-1}$  = microgram per gram

TM = trade mark °C = Celcius degree

 $g g^{-1}$  = gram per gram

mole M = V volume =% = Percentage C Carbon > greater than < less than P **Probability** 

 $BF_3$  = Boron triflouride

FA = Fatty acid

FAME = Fatty acid methyl ester SAFA = Saturated fatty acid

MUFA = Monounsaturated fatty acid PUFA = Polyunsaturated fatty acid

SD = Standard deviation rpm = round per minute

TLC = Thin layer chromatography
GC = Gas Chromatoghraphy

df = difference

ANOVA = analysis of variance

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#### **Abstract**

The study of fatty acids as the markers aims to investigate the food sources and determine the composition of fatty acids of Anadara ovalis, Polymesoda expansa and Isognomom sp. and in the Setiu Wetland. The sampling was done at the beginning of monsoon season. Isognomom sp. has the highest concentration of total lipid with the mean concentration is 0.2221 g g<sup>-1</sup> dry wt and fatty acid with mean concentration 10.37 μg g<sup>-1</sup> compare to other species. There are no significant difference in the total lipid concentration between A. ovalis and P. expansa (P> 0.05) with mean concentration 0.089 g g<sup>-1</sup> and 0.097 g g<sup>-1</sup>. There are five classes of fatty acids found in the tissues of bivalves as saturated fatty acids (SAFAs), monounsaturated fatty acids (MUFAs), polyunsaturated fatty acids (PUFAs), ω3 (omega 3) and ω6 (omega 6). There are 20 fatty acid was detected in Isognomom sp., 21 in A. ovalis and 22 in P. expansa. The saturated fatty acid (SAFAs) has the highest concentration of fatty acids in tissues, sediments and suspended materials (14.5536  $\mu g$  g<sup>-1</sup>, 4.1209  $\mu g$  g<sup>-1</sup> and 95.7265  $\mu g$  g<sup>-1</sup>) compare to other form of fatty acid. The food sources that were indicated by fatty acids of bivalves that have studied are bacteria, mangrove detritus, macroalgae and microalgae. The fatty acids that indicate as bacteria sources (MUFAs) have the highest concentration (2.4630 µg g<sup>-1</sup>) which is in *Isognomom* sp.compare with other sources. Therefore, bacteria are the main food sources for commercial bivalves species in the Setiu Wetland.