



**THE EFFECT OF CONSUMPTION OF *SCYLLA SERRATA* ON  
HAEMATOLOGICAL PARAMETERS IN RATS**

**BY**

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## DECLARATION

“I hereby declare that this thesis is my original work and has not been submitted previously or currently for any other degree at UiTM or any other institutions.”

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## ABSTRACT

Mud crab (*Scylla serrata*) is a source that is believed can treat certain blood disorders. Currently, the scientific knowledge about mud crab is still lacking in Malaysia. The aimed of this study is to determine the effect of mud crab on haematological parameters in rats. Aqueous extract of mud crab was prepared from cooked samples and then was freeze dried to powdered form. Its protein content was estimated by using Bradford assay. Eighteen male Wistar rats were randomly divided into three groups (two treatment groups and control group) of six rats (n=6). All groups were kept under similar condition. Mud crab stock solutions were prepared in 7.0 mg/ml protein/kg and 52 mg/ml protein/kg doses and orally administered to treatment groups for three weeks. Distilled water was used to control group. Blood samples were obtained from each rat via cardiac puncture for further analysis of various haematological parameters. The result revealed that the average protein content of the extract was  $5.2 \pm 0.06$  mg/ml protein/kg. RBC, Hb, HCT and MCH level increased significantly in the treatment groups compared to control group. In conclusion, mud crab contains vital nutrients that boost production of red blood cell indices, hence could serve as an essential food supplement to treat anemia.

# CHAPTER 1

## INTRODUCTION

### 1.1 Background of the study

Seafood has been an important source of nutrients since the beginning of recorded history (George M. Pigott, 1990). They contains important nutritional elements including lipid, carbohydrate, nucleic acid as well as protein and among these, protein are the major constituents (Cunningham, 1978; Pigott & Tucker, 1990). Protein in seafood is more digestible compared to poultry and meat due to its low connective tissue content (Oehlenschläger, 2012). Therefore, it is recommended for children, pregnant woman and the elderly since it is conducive to the preservation of health.

It is known that the people from the past had utilized seafood as a natural product to treat certain diseases including blood disorder. In fact, there were still many people put their confidence in the alternative way to deal with the diseases and epidemics today. Recent studies had reported that seafood, particularly clam and mussel can be an alternative treatment to treat certain blood disorders (A. N. Archibong, Ofem, Akwari, & Ukwani, 2014; A. Archibong et al., 2014). Yet, our nation is still lacking of studies on seafood, which is likely an alternative treatment of anemia or dengue treatment. Due to this reason, *Scylla serrata* or known as mud crab is being chosen as the topic of this work.