

## **Lipid composition and fatty acid profiles of wild caught and fattened mud crab, *Scylla serrata*, in Sri Lanka**

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### **Abstract**

There is a huge demand for mud crab (*Scylla serrata*) in overseas markets. The mud crabs available to the market are mainly from two different sources; wild caught and fatten. Crab fattening method is used to fatten the thin crab or post molt crab to fill up their meat in short period. Lipid levels and fatty acid profiles of wild caught and fatten mud crabs at the harvested stage as well as at the stocking and harvesting stages of the fattening process were analyzed using gas chromatography.

The lipid content of wild caught *S. serrata* ( $0.54 \pm 0.4$ ) was significantly higher than that of fatten individuals ( $0.46 \pm 1.6$ ). Polyunsaturated fatty acids were the predominant group of fatty acid found in *S. serrata* (38%-43%) and Oleic acid (C 18:1 n-9) was the most abundant fatty acid (15%-21%). Canonical discriminant analysis was carried out to test the separation of the three categories based on the fatty acid profiles. The fatty acid profile of harvested crabs (fatten stage) from fattening facilities appeared distinct from other two categories. The group showed 100% discrimination from other two categories. Fattening (stocking) crabs showed 90.9% discrimination from wild caught harvested, but 27 % of wild caught also overlap with fattening (stocking). Pentadecanoic acid (C15:0), Oleic acid (C18:1 n-9), Gondoic acid (C20:1) and Stearic acid (C18:0) mostly affects this discrimination of the categories. The results clearly showed the differences of fatty acids of caged fattened mud crabs than wild mud crabs, may be due to differences in feeds available.

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