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NUTRITIONAL PROPERTIES OF MUDSKIPPER, *Periophthalmus novemradiatus*.

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ABSTRACT

Mudskipper (MS), *Periophthalmus novemradiatus* were collected from three different locations: Kota Kinabalu (KK), Teluk Ambong (T. Ambong) and Pulau Banggi (P. Banggi) were analyzed for total lipid, cholesterol, fatty acids, protein, moisture and ash. Lipid and cholesterol showed no significant differences ($p > 0.05$), but there were significant differences ($p < 0.05$) in protein, moisture and ash between the compared locations. The highest protein and the lowest ash content were found in sample from T. Ambong, while sample from KK showed the highest moisture content. There were also significant differences between the locations where the highest polyunsaturated fatty acid (PUFA, 46.88%) and the lowest saturated fatty acid (SFA, 21.74%) were found in samples from T. Ambong, while samples from P. Banggi have the highest monounsaturated fatty acid (MUFA, 24.55%). There was no significant differences in arachidonic acid (ARA) but significant differences was observed in eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) with the highest found in samples from KK (7.74%) and T. Ambong (19.77%) respectively. Nutritional properties of MS was also compared with four species of edible marine fishes in Sabah: "Ikan Basung (IBa), "Ikan Bilis" (IBi), "Ikan Belanak" (IBe), and "Ikan Merah Mata Besar" (IMe). There was significant difference among the fishes studied. Lipid and cholesterol content was highest in IBe (24.3%; 0.57%). As for protein content, the highest was found in IBi and the lowest in MS but these fishes showed the highest moisture (81.3%) and ash content (23.47%). There was significant differences among the fishes in fatty acids but they share the same trend as observed in mudskipper except IBe. There was no significant difference in EPA but significant difference was observed in ARA and DHA. PUFA and DHA are found to be highest in IBi (51.93%; 40.65%), while SFA and MUFA are found to be highest in IBe (42.12%; 29.12%). The highest EPA and ARA were found in MS (7.74%; 0.90%).

