Anti-oxidant Activities of Bioactive Compounds Extracted from *Pterygoplichthys pardalis* (Scavenger Fish) Harvested at Digana, Central Province, Sri Lanka

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Pterygoplichthys pardalis (Scavenger fish) survive by competing with native biota. This species is an omnivore whichthreat to endemic fish species and inland aquaculture industry. However, these fishes contain compounds which autolysis proteins under low temperatures. Objective of this study was to check the difference in the water soluble proteins which can be used as bioactive compounds separated from scavenger fish after slaughtering stored at 4 ˚C for 24 hrs. Female fish (n = 3) were collected from local reservoir and slaughtered in the field. Slaughtered fish which stored at 4 ˚C were separated in to 4 main components as flesh, GI tract, mucus and other gonads in 0, 3, 6, 9, 12 and 24 hrs of storing. Separated parts were homogenized with distilled water (1:4) and centrifuged to collect the supernatant. Level of separation was observed using SDS-PAGE gel electrophoresis. Then samples were lyophilized and used for further analysis. Antioxidant activity was measured using TBARS inhibitory assay and DPPH scavenging activities. SDS-PAGE images confirmed that there were no differences in the extracted compounds after 03 hrs of slaughtering. According to the TBARS assay, three extractions from flesh, mucus and other organs had stronger antioxidant properties compared to the control ($p < 0.05$). While DPPH scavenging results showed over 75% activity (other organs-91.26±8.28%, flesh- 87.07±4.49%, GI-86.20±3.94%, mucus- 75.20±4.09%) but no difference was observed among the extracted compounds ($p > 0.05$). Concluding water extracted in 0-3 hrs after slaughtering of female scavenger fish showed strong antioxidant activities and this can be used as natural anti-oxidant agent in food industry.

Keywords: Scavenger fish, Antioxidant properties, TBARS assay, DPPH assay