

## Determination of proximate chemical composition and cadmium content in commonly consumed freshwater fish in Ampara district

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**Background:** Fish are high in nutrition and have a variety of health benefits for humans. Three freshwater fish species namely *Channa striata*, *Heterophenus fossili* and *Osphronemus goramy*, are locally available and usually consumed in Ampara district were studied.

**Objectives:** There is hardly any recent study performed on proximate chemical composition and cadmium content of these fish species to ensure the requirement of compliance with food regulations and other commercial specifications. Thus, there is a necessity of determining the chemical composition of these species to fill the information gap which helps in developing consumer safe, nutritionally balanced and cost-effective diets for people in Ampara district.

**Methods:** Ten individual samples of each fish species were collected from the local market and the proximate composition and cadmium content in samples were analysed by standard methods. Data were statistically analysed by using SPSS software.

**Results:** The results revealed that the average protein and moisture contents of the fish varied from 14.3±0.1 % to 20.2±0.2 % and 77.90±0.57 % to 79.18±0.14 % respectively, where *H. fossili* was found to be with the highest protein and moisture contents followed by *C.striata*. The minimum (0.12±0.008 %) and maximum (0.63±0.019 %) fat contents were reported for *C.striata* and *H.fossili* respectively. The mean values of the ash contents varied among the three species from 0.12±0.006 % to 0.86±0.037 % at p <0.05. The cadmium concentration was varied between 0.020±0.001 ppm to 0.022±0.001 ppm, which is still within the FAO recommended safety level. A significant difference was observed (p<0.05) in moisture, protein and ash contents among the species whereas fat and cadmium contents showed no significant differences.

**Conclusion:** The species *H. fossili* could be preferred for continuous consumption as it has a higher content of protein and all three species are safe for consumption as far as the cadmium content is concerned.

**Keywords:** Cadmium, Freshwater fish, Proximate, Ampara