

**QUALITY ASSESSMENT OF KA-KU-YAN (*POLYNEMUS  
INDICUS*), NGA-MOTE-PHYU (*PAMPUS ARGNTEUS*), AND  
NGA-MOTE-MEI (*PARASTROMATEUS NIGER*) FOR  
EXPORT**

**PhD (DISSERTATION)**

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## ABSTRACT

Ka-ku-yan (*Polynemus indicus*) (threadfin-catfish), nga-mote-phyu (*Pampus argenteus*) (silver pomfret butterfish) and nga-mote-mei (*Parastromateus niger*) (black pomfret butterfish) are highly priced fish due to their good flavour. Chemical compositions such as ash, fat, protein, chloride ion, total nitrogen, volatile nitrogen (ammonia, trimethylamine, total volatile base nitrogen) and histamine were determined. Atomic absorption spectrophotometric determinations showed the heavy metals contents within the range of 0.007 to 0.014 ppm for Hg, 0.012 to 0.141 ppm for Cd, 0.283 to 1.364 ppm for Pb which were below the limit set by FDA. Chemical assessment on these fish samples ensured the safety of the fish samples for consumers as well as for export. Microbiological assessment on these fish samples revealed that microbial population in these fish samples were in the range of  $4.1 \times 10^4$  to  $5.2 \times 10^5$  CFU/g which were lower than the limit set by International Commission on Microbiological Specifications for Foods (ICMSF). Such food poisoning bacteria as *Salmonella*, *Vibrio cholerae* and *Staphylococcus aureus* were not detected by using their specific media. A very low counts (<10 CFU/g) of coliforms and *Escherichia coli* were detected by the petrifilm method. Parallel to the changes of spoilage indicators of the fish samples the total bacterial counts were monitored during the storage at both chilled and room temperatures. Pronounced changes of these parameters were observed at room temperature. Results from the present work were analysed

using analyses of variance ANOVA one - way. Correlations between the parameters were calculated using Statistical Package of Social Science (SPSS) 11.5 to Windows and the correlations were significant at  $P=0.01$  level.

**Keywords:** *Polynemus indicus, Pampus argenteus, Parastromateus niger, Coliforms, E.coli, Salmonella, V. cholerae, Staph.aureus, spoilage indicators, SPSS.*