Extracted Fish Proten Concentrates (FPC) from two species of commercial (*Liza Klunzingeri*) and industrial (Lanter Fish) in Persian Gulf and comparison quality and nutrional value of both to be used in food industry

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Abstract
Fish Protein Concentrateis ahealthy food product and, as a light gray powder with high nutritional value, is hygienically prepared from fish in which the concentration of the protein, other nutrients and mainten an cesigni ficantly are high, thus it is used in different forms in producing a variety of food products. The objective of the study was to produce Fish Protein Concentrate with a quality of type A from a pelagic fish species known as *Green back mullet (Liza klunzingeri)* and a mesopelagic fish speciesk nown as Lantern fish *(Benthosema Pterotum)* using isopropyl alcohol for the extraction of the protein .As the fish were caught and the head, tail and viscera were removed, they were defatted three times with isopropyl alcohol and then were dried in an ovenat 105 °C for 24 hoursin the form of powders and finally were graded in different sizes by sieve meshes of 75, 125, 250 and 500 micron .The chemical analysis including (protein, fat, moisture, ash and TVN) and the physical analysis were conducted for measuring the characteristics of functional properties of the products (water holding capacity, foaming capacity, foaming stability, emulsion capacity and emulsion stability), and subsequently the profile analysis of Amino acid (essential and non-essential ones) was performed. One- way ANOVAand mean comparisons were evaluated by Duncan test at5% significancelevel using SPSS 23. The values for protein, lipid and some of volatile basic nitrogen compounds obtained from lantern fish concentratewith particles smaller than 75 micronsin diameter were 83.46±0.9199, 0.4900±0.020, 9.7800±1.7125 respectively, and for *Greenback mullet the respective values were* recorded as 85.550±0.7263,

0.6316±0.0485 and 12.7567±0.4536.No significant difference is found between lantern fish and *Greenback mullet* concentrates with particles smaller than 75 micronsin diameter for protein ($p<0.05$), but the significant difference is presented between the two kinds of concentrates and other treatments for fat and volatile nitrogenous base.The essential amino acid sarerelatively high in manufactured products and are ranked lowest in fish meal. On the other hand, the amount of undefined compounds (in amino acid content) has been the highest value in fish mealcompared to other treat ments.Invarious PH, there was no significant difference between lantern fish and *Greenback mullet* concentrates *with* with particles smaller than 75 micronsin diameter for foamingindex, butsignificant difference was observedin thefoamstability index($p<0.05$).For thewater holding capacity index, there was nosignificantdifferencebetween the particles smaller than 75, 75-125,250-125and500-250microns in diameter($p<0.05$).The emulsifying index at different pH(10-8-6-4-2) showed the greatest amount of emulsifying properties for lantern fish occurs at PHP6 and for *Greenback mullet* at PHP 10 , but in the respect of theemulsionstability index, these values occurred at pH=2, 6and8for lantern fish andpH= 2,4 and8 for *Greenback mullet* .The production efficiency for Lantern fish protein concentrate and *Greenback mullet one was* reported *to be* 10.9%and10.64% respectively. Since the nutritional quality and shelf life of protein concentrate extracted from the lantern and *Greenback mullet* in this study *were comparable with* physico-chemicaland functional standards proposed by FAO and FDA, they are recommendedas suitable protein supplement swith nutritional and functional use in the food industry.

Keywords: Consentrat fish protein, Lantern fish, *Greenback mullet,* Nutritional supplements and Functional properties.