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ABSTRACT

Morphometric Categorization of Genus Tenualosa (Hilsa) found in Indus River, Sindh Pakistan

Hilsa fish, *Tenualosa ilisha* belonging to the class Actinopterygii, order Clupeiformes, sub-family Alosinea, and family Clupeidae is one of the most important fishes of the Indo-Pacific region. The distribution of the species is observed in several other countries bordering: the Bay of Bengal, Arabian Sea, Indian Ocean, and Persian Gulf (Sajina et al., 2019). The Hilsa fish (*Tenualosa ilisha*) occurs in the foreshore areas, estuaries, brackish water lakes and freshwater rivers of the western division of the Indo-Pacific faunistic region (D. De et al., 2019 and Pillay, T. V. R., Pillay, S. R. & Ghosh, K. K. A et al., 1963). Due to its taste, favor and culinary properties, the fish has high demand; Fish is a food of excellent nutritional value, providing high-quality protein and a wide variety of vitamins and minerals, including vitamins A and D, phosphorus, magnesium, selenium, iodine (Mohanty, B. P. et al., 2016). The Kotri Barrage, also known as the Glulam Muhammad Barrage, was opened in 1955. It is near Hyderabad and is nearly 3,000 feet (900 meters) long and has 44 gates. The right-bank canal provides additional water to the city of Karachi (Britannica). In previous study in Pakistan, which was very few but show, that collection point and breeding ground of Hilsa fish (*Tenualosa ilisha*) was Kotri barrage (Narejo N.T et, al., 2005; 2008). The Starting capturing of Hilsa fish (*Tenualosa ilisha*) in the 28 August 2020 to 28 September 2020 one month of period. Hiring two fishermen to capturing Hilsa Fish (*Tenualosa ilisha*) and during these days Indus River was flooding condition. Mostly fisherman capturing Hilsa fish in Kotri barrage using local boats and usual use gill net but problem is that the Hilsa fish was dead in gill nets but we need live Hilsa fish (*Tenualosa ilisha*) brooder for rearing. “Chiko” or wire basket only one method to capture live Hilsa fish (*Tenualosa ilisha*) in Kotri barrage, that was old fishing method but scientifically or research point of view its first time reported, this method was use in flooding season and its look like wire basket, made by iron or cooper wire. Fisherman siting on Kotri barrage gates during flood pass on gates, the door was fully open so many fishes were easily move on that time, the fishermen drooping this “Chiko” in gates of barrage with long rope attached on it and other part of rope has fisherman hands, these fishing methods capturing not only Hilsa fish (*Tenualosa ilisha*) live but others carp fish and cat fish species also caught. Mostly fishermen capture fishes for the using “Chiko or wire basket” and starting at midnight 12 am till the morning. The survival rate in fiber tanks was 100% therefore no mortality occurred but few specimens were dead during the transportation. In Hapa, five specimens were escape due to flood. Finally, we recognized that Hilsa fish could

survive in confined water bodies when the dissolved oxygen level was good in the water. Total nine specimen were collect, minimum size of Hilsa fish (*Tenualosa ilisha*) was 233 mm and maximum size was 390 mm and minimum weight was 253 gram and maximum 700 gram were calculated during experimental trial. These dots were varying in some extent; few of specimens have no dots while others were having 12 dots in their bodies. The dots consist of black color that appeared very first time in Pakistan and has no history in past. Protein contents of Hilsa Tenuolosa ilisha were determined samples were estimated to be 20.24%, fat content recorded 10.21 %, and ash content 4.43%. Water quality parameters were monitored daily throughout the experimental period. These parameters of fiber tank were suitable range, temperature 27.2±0.08°C, dissolve oxygen 6.87±0.14 mg/L, water pH 7.6±0.4, and ammonia 0.03±0.02 mg/L.

Keywords: *Tenualosa ilisha,* Hilsa fish, dots, proximate composition, Aquaculture, survival rate, wire basket