

A biological and biochemical study of two species of sea bream *Acanthopagrus arabicus* (Iwatsuki, 2013) and *Sparidentex hasta* (Valenciennes, 1830) from Shatt Al-Arab River – Southern Iraq

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ABSTRACT--Due to the importance of sea bream, *Acanthopagrus arabicus* (Iwatsuki, 2013) and *Sparidentex hasta* (Valenciennes, 1830), the current study aimed to identify some of the biology aspects and biochemical contents of these two species for both fisheries and aquaculture industry. During the time from January 2018 to June 2018, samples of both species were obtained. In which the relationship between fish lengths and weights was studied, a simple regression between lengths and weights and their mathematical expression was analyzed. The absolute condition factor (K) and the relative condition factor (Kn) of both species were also determined. The study found that the sizes of *S. hasta* fish are larger than that of the sizes of *A. arabicus*, as their lengths ranged between 9 to 25 cm (average length of 17 cm) while they were in the *A. arabicus* fish 9-19 cm (average length of 14 cm), and the weights of *S. hasta* fish ranged between 19.64 g to 87.32 g, with an average weight of 52.24 g, whereas in the *A. arabicus*, it was 18.10 to 43.70 g, with average weight of 37.92 (g). The equation of the length-to-weight relationship for the *A. arabicus* fish was $W = 1.541 + 2.639 L$, and $W = 0.39 + 2.800L$ for *S. hasta* fish. The absolute (K) were 44311 and 44013 of the two species respectively, relative condition (Kn) were 04910 for *A. arabicus* and 04999 for *S. hasta*. Fish muscles were taken to measure the chemical composition. The results indicated that *S. hasta* fish have the highest percentage of meat (yield %), high protein and fat content, as the yield % reached 48.97 ± 2.54 %, protein content 19.5 ± 1.89 , and fat content 8.1 ± 0.53 compared to yield %, protein and fat content of *A. arabicus* fish meat 45.63 ± 2.08 %, 18.79 ± 0.50 and 3.31 ± 1.01 % respectively. Based on these results, the two species are good source of protein, fat and minerals, and provide useful data for both fisheries management, and aquaculture industry.

Key words-- *Acanthopagrus*, *Sparidentex*, Sea bream, chemical composition, length weight relationship

I. INTRODUCTION

The Sparidae family, known as sea breams or porgis, is found in tropical and temperate waters (Froese and Pauly, 2013). Sparid fish are distributed widely and commercially important for the world's fisheries sector and industries (Pavlidis and Constantinos, 2011). *Acanthopagrus arabicus* and *Sparidentex hasta* are categorized in the same order as Perciformes and the Sparidae family, but separate subfamilies; Sparinae and Denticinae, respectively. (Kuronuma and Abe, 1986). Since the species are commercially important, their biology and taxonomy have been well studied. Age growth and reproductive biology including almost all sparide species have

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