



Research Article

Reproductive Biology of Hamri Fish (*Carasobarbus luteus*) from Al-Chibyesh Marsh, South of Iraq

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Abstract | Due to the large reduction in the stock of Hamri fish, *Carasobarbus luteus* stock, the present research highlighted the most important aspects of reproductive biology of these fish from January to December 2021 in the Al-Chibyesh Marsh, southern Iraq. The work dealt with gonadosomatic index (GSI), fecundity, the relationship between reproductive and morphometric variables, and the length-weight equation of species. The study discussed the reasons that led to the dropping of the abundance and presence of current species in the marsh. A total of 686 fish (307 males and 379 females) were monthly collected from the study region. The total length of individuals differs from 13 cm in June to 26.20 cm in January. Gonadosomatic index (GSI) in the females was 5.51 in February and attained a peak of 11.96% in March, whereas the males fluctuated from 3.13 in February and attained a peak of 3.76 in March 2021. The absolute fecundity ranged from 2325 eggs at a total length of 24.50 cm and body weight of 238.70 g to 8702 eggs at a total length of 26.20 cm and body weight of 305 g. Weak relationships were detected between reproductive and morphometric variables, except the relation between total length and weight was strong ($r = 0.912$). Spawning season happened in March and was prolonged to April in two batches. The sex ratio attained 1:1.23 male to female. The present study concluded there were no variations in the fecundity of species, but the hydrological changes and habitat deterioration caused a decline in the species stock.

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Introduction

Fish are a primary source of nutrition for humans, providing them with healthy, easily digestible protein that helps build the body and repair damaged parts (Phogat *et al.*, 2022). This species is an important commercial fish in southern Iraq and is highly sought after by the local population, its traps are widespread in the marshes and in the Tigris and

Euphrates rivers and their tributaries (Jawad, 2021).

The reproductive biology of the freshwater species Hamri *Carasobarbus luteus*, especially fecundity, is essential to determining the stability of fish assemblages and their survival. Fecundity represents some important reproductive traits, which means the number of mature oocytes released from the females during the spawning season (Abdullah