

## Reproductive Behaviour of the Red Sea Immigrant *Lagocephalus scleratus* (Gmelin, 1789) from the Mediterranean Coast, Egypt

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**Abstract :** The present work aimed to study the reproductive strategy of the common lesspsian puffer fish *Lagocephalus scleratus* (Gmelin, 1879) from the Egyptian Mediterranean Waters. It is a famous migratory species plays an important role in the field of fisheries and ecology of aquatic ecosystem. The obtained results illustrated seven maturity stages of gonads as; I- Thread like stage; II- Immature stage (Virgin stage), III- Maturing stage (Developing Virgin and recovering spent), IV - Nearly ripe stage, V- Fully ripe; VI-Spawning stage, VII- Spent stage. Sex ratio, exhibited males had higher number than females representing 52.44 % of the total fishes with sex ratio 1: 0.91. Fish length corresponding to 50% maturation was 38.5 cm for males and 41 cm for females. The corresponding ages (age at first maturity) are equal to 2.14 and 2.27 years for male and female respectively. The gonado somatic index (GSI) increased from April for both sexes with peak in June ( $8.567 \pm 4.729$ ) for males and May ( $6.769 \pm 4.662$ ) for females, then the sharp decrease was observed in October showing prolong spawning season from April to September for both sexes. The hepato somatic indices (HSI) for males were lower values than those of females, it were high from December to early spawning (April & May), with the peak in April ( $5.217 \pm 2.167$ ) for males, and in March ( $5.453 \pm 1.792$ ) for females, then these values started to decrease towards the end of spawning period. The ova diameter ranged from 0.02 to 0.85mm, the mature ova ranged from 0.16 to 0.85mm and showed progressive increase from April towards September during spawning period introducing one peak of mature and ripe eggs. The absolute fecundity increased as the fish grew in weight and length; it was ranged from 260288 to 2372931 for fish weight and ranged from 698 to 3285 cm for length with an average of  $1449522 \pm 720975$ . The relative fecundity ranged from 373 to 722 for fish weight with an average of  $776 \pm 231$ , while it range from 5784 to 32957 for fish length groups ranged from 43-45 to 70-72 cm with an average of  $24478 \pm 10011$  eggs. Histological characters of gonads during the year of study indicating this fish species has prolonged spawning season from April to September where ripe oocytes were observed during this period. This species is considered totally or uni spawner with synchronous group as it contained one to two developmental stages at the same gonad and releases its ripe ova in one batch during the spawning season. These results illustrated more adaptation of this species in new habitat.

**Keywords :** reproductive biology, histology, *Lagocephalus scleratus*, Mediterranean Sea, Egypt

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