

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

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**Abstract :** The present work aimed to study the reproductive strategy of the common lessepsian puffer fish *Lagocephalus sceleratus* (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 specimens were collected monthly from the landing centers along the Egyptian Mediterranean coast during 2012. Six maturity stages were recorded: (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. According to sex ratio, males exhibited 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 ova diameter ranged from 0.02mm to 0.85mm, the mature ova ranged from 0.16mm to 0.85mm and showed progressive increase from April towards September. Also, the presences of ova diameter in one peak of mature and ripe eggs in the ovaries were observed during spawning period. The relationship between gutted weight and absolute fecundity indicated that that fecundity increased as the fish grew in weight. The absolute fecundity ranged from 260288 to 2372931 for fish weight ranged from 698 to 3285 cm with an average of  $1449522 \pm 720975$ . The relative fecundity ranged from 373 to 722 for fish weight ranged from 698 to 3285 cm with an average of  $776 \pm 231$ . The spawning season of *L. sceleratus* was investigated from the data of gonado-somatic index and monthly distribution of maturity stages along the year as well as sequence of ova diameter for mature stages and exhibited a relatively prolong spawning season extending from April for both sexes and ends in August for male while ends in September for female. Fish releases its ripe ova in one batch during the spawning season. Histologically, the ovarian cycle of *L. sceleratus* was classified into six stages and the testicular cycle into five stages. Histological characters of gonads of *L. sceleratus* during the year of study had confirmed the previous results of distribution of maturity stages, gonado-somatic index and ova diameter, indicating this fish species has prolonged spawning season from April to September. This species is considered totally or uni spawner with synchronous group as it contained one to two developmental stages at the same gonad.

**Keywords :** *Lagocephalus sceleratus*, reproductive biology, oogenesis, histology

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