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Some Biological Characteristics of Crayfish (*Astacus leptodactylus* Eschscholtz, 1823) in Lake Eğirdir

İsmet BALIK, Hidir ÇUBUK, Remziye ÖZKÖK, Rahmi UYSAL
Eğirdir Fisheries Research Institute, 32500 Eğirdir, Isparta - TURKEY

 [Keywords](#)
[Authors](#)



zool@tubitak.gov.tr

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Abstract: This study was conducted in Lake Eğirdir in 2001 and 2002, to investigate some biological characteristics, i.e. sex and length compositions, length-weight relationship and reproduction, of the crayfish (*Astacus leptodactylus* Eschscholtz, 1823) population. Sex ratios of crayfish caught with fykenets of 34 - mm mesh size (stretched mesh) were 65.2% male and 34.8% female. The total body lengths of both sexes ranged from 40 to 150 mm and the majority were in the 110 mm length class. Although the average lengths of both sexes were nearly the same, the average weight of male crayfish was higher than that of females. The length (L) - weight (W) relationships for males, females and combined sexes were $\text{Log } W = -10.007 + 2.922 \text{ Log } L$ ($R^2 = 0.960$), $\text{Log } W = -9.206 + 2.724 \text{ Log } L$ ($R^2 = 0.977$) and $\text{Log } W = -9.714 + 2.850 \text{ Log } L$ ($R^2 = 0.958$), respectively. Mating and spawning of crayfish started in mid- December and mid- January, respectively. Embryonic development of eggs lasted until the beginning of June, and young larvae hatched from the eggs left their mothers by the middle of June. First maturity length (L_m) was estimated as 97.9 mm for female individuals. The fecundity (F) - length and the fecundity - weight relationships were $F = -359.3 + 56.6 L$ ($R^2 = 0.670$) and $F = 151.4 + 3.09 W$ ($R^2 = 0.779$), respectively. On the other hand, in 27.9% of females with cement glands no eggs were seen.

Key Words: Lake Eğirdir, crayfish, *Astacus leptodactylus*, population structure, reproduction

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