

## Effects of Cadmium on Spermatogonia, Spermatocytes and Sperm Motility of Caspian kutum, *Rutilus frisii kutum*

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### Abstract

Cadmium is one the common heavy metals that usually enters the Caspian Sea and the riverine ecosystems. Effect of Cadmium on spermatogenesis in Caspian kutum and motility of spermatozoa were studied. At first, kutum testis was exposed to Cadmium using *in vitro* testis culture in  $10^{-5}$ ,  $10^{-6}$  and  $10^{-7}$  M concentration of  $CdCl_2$  solution for 3 and 6 days and in the second experiment, spermatozoa motility was evaluated after exposure to 0, 0.01, 0.1, 1, 10, 100 and 1000 mg/l of  $CdCl_2$  solutions. With the increase in Cadmium concentration, due to the reclining effect of Cadmium on spermatogenesis, the number of spermatocytes and size of germ cells decreased significantly. Motility of spermatozoa decreased significantly with increasing Cadmium concentration and its motility stopped in 1000 mg/l. Reduction in quality and quantity of germ cells could impair offspring production and recline their viability and thus posing threats on valuable kutums stocks.

**Keywords:** Caspian kutum, Cadmium, testis, spermatozoa, *Rutilus frisii kutum*

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