

**GAMMA RADIATION EFFECT OF PARTNOGENETIC *ARTEMIA*
(BRANCHIOPODA, ANOSTRACA) CYSTS
ON NAUPLIUS HATCHING AND POSTNAUPLIUS SURVIVAL
UNDER DIFFERENT SALINITY**

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The effect of gamma radiation doses of 0, 2.5, 5.5 and 7.5 Gy received by *Artemia* cysts on the hatching of nauplii and post-nauplii survival of crustaceans was studied at salinities of 0, 9, 18, 36, 54, 62, 78 and 88 g/L. Under the same salinities, the above parameters were also estimated without irradiation. It has been found that the rate of nauplii hatching from cysts primarily depends on salinity, the coefficient of determination being 90%. The radiation dose did not affect nauplii hatching at any salinity, except 54 g/L, when a reliable negative relationship between the hatched nauplii fraction and the radiation dose was found. The survival of crustaceans appeared from irradiated cysts depended on salinity. In the salinity range of 9–52 g/L, it was significantly less than in the range of 62–88 g/L (2.5 and 5.5 Gy). The crustaceans came from the cysts received 7.5 Gy did not survive to 12 days at a salinity of 88 g/L. The minimum post-nauplii survivorship of the crustaceans was noted at a salinity of 54 g/L under all irradiation doses; this salinity can be considered as critical for *artemia*, when the osmoregulation mechanism reconfigures. Ecological effects in *artemia* populations can occur, starting from the dose of 2.5 Gy. The studied radiation doses may have long-term consequences for *artemia* populations in hypersalinated water bodies. To correctly quantify the effect of these doses on *artemia* populations, it is necessary to study not only the generation of crustaceans immediately hatched from irradiated cysts, but also 2–3 subsequent generations.

Key words: *Artemia*, resting eggs, gamma radiation, salinity, survivability, radioreistance.

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