

In-Vitro fertilization technique in *Pelophylax kurtmuelleri*

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Abstract

In the last three decades, amphibian population has decreased significantly. 32 species are globally threatened, 43% are experiencing declining for various reasons and 122 species have disappeared since 1980. Since 2010, the IUCN Red List lists 486 species of amphibians as “critically endangered”. Human activity is causing a great loss to the world species diversity, but amphibians are the species which are suffering more. This is because amphibians have a double life cycle in water (larvae) and on the ground, and thus affected by the two environments. In this context, conservation breeding is playing an important role in the protection of critically endangered anuran amphibians. In response there has been an increasing focus on the use of in-vitro fertilization technique, which enables the formation of new organisms in laboratory conditions and guarantees the living continuation of amphibian species. The objective of this study has been the applying of the in-vitro fertilization technique (IVF) for the first time in our country, in one of the critically endangered frog species, (marsh frog, *Pelophylax kurtmuelleri*). For this purpose, 20 sexually matured marsh frogs were used for in vitro fertilization technique. The individuals were collected during the reproduction phase (March-May; 2011-2012, 2012-2013). The average IVF embryo yield of 27% has been achieved in our laboratory, which is high compared with the average IVF embryo yield of similar techniques applied by other laboratories. Fertilization of frog eggs through the direct spray of macerated testicle extracts increases the sensitivity of IVF technique in frogs. This technique offers the possibility to preserve endangered amphibian specimens *in-situ*.

Key words: *pelophylax kurtmuelleri*, *in-vitro fertilization*, *embryo yield*, *frog*, *macerated testicle extract*.

