O 27. DOES EGG JELLY COAT INDUCE SPERM MOTILITY-FACTS FROM IN-VITRO FERTILIZATION OF ALBANIAN FROG, *PELOPHYLAX SHQIPERICUS*

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ABSTRACT: Amphibian egg-jelly is essential to successful fertilization and development. The sperm-egg interactions occur in the egg-jelly at fertilization and the egg-jelly prevents excess sperm from reaching the egg-surface after the egg is spawned into water. Sperm–egg interactions are important in generating nonrandom fertilization. Here, we ask whether proteins in the jelly coats of frog eggs might influence sperm performance. Using in vitro fertilization of Albanian water frog, Pelophylax shqipericus, we found that eggs enrobed by jelly coat were not fertilized, compromising the success of in vitro fertilization procedure. When de-jellied eggs were inseminated with sperm through the gelatin gel, the fertilization efficiency is dramatically increased, suggesting that the gel structure is one of the major factors in the achievement of fertilization in the frogs. Such a result suggests that egg jelly coat probably guides the sperm to the egg surface while maintaining the fertilization ability, which results in the sperm having a chance to contribute to a successful fertilization. Also, it influences the onset of motility and swimming velocity of motile sperm in the frog Pelophylax shqipericus. This study suggests that sperm–egg interactions are important in generating nonrandom fertilization and are crucial to in-vitro fertilization process.

Keywords: Pelophylax shqipericus, egg-jelly coat; sperm–egg interactions