A COMPARATIVE STRUCTURAL ANALYSIS OF EGGS IN THREE SPECIES OF THE GENUS *PARAMACROBIOTUS* (TARDIGRADA: EUTARDIGRADA)

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Tardigrades are tiny invertebrates famous for their resilience to various stressors. Eggs serve as taxonomic markers among tardigrade species by both morphology and laying methods (freely in the environment or in exuvium). These differences not only help with the identification of species but also offer valuable understandings of evolutionary adaptations.

The aim of our research was to describe the structure of the eggs of three species from the genus *Paramacrobiotus.* The research was conducted using Light Microscopy (LM), Scanning Electron Microscopy (SEM) and Transmission Electron Microscopy (TEM) techniques. The eggs of *Paramacrobiotus fairbanksi, Paramacrobiotus experimentalis* and *Paramacrobiotus gadabouti* are laid straight into the environment, not within the exuvium (Schill et al., 2010; Kaczmarek et al., 2020; Kayastha et al., 2023). However, the internal surface of the areolae in *P. experimentalis* exhibits a corrugated structure, while *P. gadabouti* a surface with pores. Interestingly, *P. fairbanski* presents a combination of both these features. *P. gadabouti* having ornamentation of the *richtersi* type, contrasting *P. experimentalis*, which shows ornamentations of the *areolatus* type (Kaczmarek et al., 2020; Kayastha et al., 2023). Additionally, there is a notable difference in the morphology of the top endings of the processes, and the number of areolae surrounding each process. Understanding the differences in egg morphology and laying methods between species is crucial for accurate taxonomic classification and evolutionary studies.

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