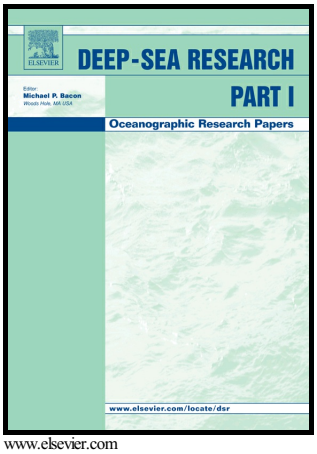

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Aspects on gametogenesis, fertilization and embryogenesis of two deep-sea polychaetes from Eastern Atlantic cold seeps

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Abstract

We investigated two gonochoristic species of annelid polychaetes (one siboglinid and one polynoid) from cold seeps that ranged from 525 m to 3300 m in depth (Guiness, Worm Hole and Regab pockmarks) on the Gabon and Congo continental margins (Gulf of Guinea). Different aspects of gametogenesis (oocyte diameter, presence of ovisac, spermatozoa shape, and fecundity), fertilization (*in vitro* fertilization experiments: IVF) and embryogenesis (cleavage rate) were studied. The sampled siboglinid was a new species of *Lamellibrachia* and the second population of this genus in the Eastern Atlantic. Mean oocyte diameter was about 100 µm and fully-grown primary oocytes were stored in an ovisac, as in other studied siboglinids. The presence of a single spermatozoon was noted within an oviduct, indicating a possible internal fertilization. The rate of cell division at 6°C was one cleavage every ~20 h. Embryos developed normally to the blastula stage after 5-d post-fertilization at atmospheric pressure suggesting some pressure tolerance. The second polychaete was the scale-worm