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魁蚶精子发生的超微结构

Ultrastructure of spermatogenesis of *Scapharca broughtoni*

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英文关键词:*Scapharca broughtoni* spermatogenesis sperm ultrastructure

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作者	单位
叶 婧	浙江工商大学 食品与生物工程学院
姜建湖	宁波大学 教育部应用海洋生物技术重点实验室

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中文摘要:

利用透射电镜(TEM)技术观察了魁蚶精子发生过程的超微结构变化。结果表明:魁蚶精子发生经历了精原细胞、初级精母细胞、次级精母细胞、精子细胞和精子形成等过程,在精子形成中的主要细胞学事件包括顶体的发育、核形态变化及尾部的形成等。此过程中,前顶体颗粒聚集、融合,形成顶体囊,然后发育为圆锥形顶体;核的形态由圆形或卵圆形变为鼓形,核内染色质由团块状到颗粒状,再到高电子密度均质;线粒体聚集、融合、体积变大,迁移至核的后端,参与精子中段的形成。成熟精子由头部、中段及尾部组成,头部由顶体及核构成,中段由5个线粒体围绕远端中心粒组成,尾部为细长的鞭毛。

英文摘要:

Ultrastructural changes during spermatogenesis of *Scapharca broughtoni* were investigated by transmission electron microscopy. Results showed that spermatogenesis in this species underwent successive stages of spermatogonium, primary spermatocyte, secondary spermatocyte, spermatid and spermatozoa. The changes during spermiogenesis mainly include acrosome development, morphological transformation of nucleus and formation of tail. In these processes, proacrosomal granules accumulated and fused into acrosomal vesicle and finally became a cone shaped acrosome. The nucleus changed from round or oval to tympaniform. The chromatin in nucleus changed gradually from agglomerate to granule and eventually became homogenous with high electron density. Mitochondria accumulated and fused with larger size. At the same time, they gradually moved to the nucleus posterior and participated in formation of the mid piece. Mature spermatozoon contained three parts: head, mid piece and tail. The head consisted of an acrosome and a nucleus. The mid piece comprised five mitochondria surrounding the distal centriole. The tail was a slender flagellum.

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