

东海三疣梭子蟹纳精囊形态结构与内含物的变化

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摘要: 2005~ 2006 年通过定期采样,对东海三疣梭子蟹(*Portunus trituberculatus*)纳精囊的形态、组织结构、内含物及相应卵巢的发育状况进行了较为深入的研究。交配前期,4~ 6 月份,纳精囊囊壁较薄,背腹囊腔分离;随后囊壁皱缩(7~ 9 月份),背部囊壁上皮出现分泌层;最后囊壁增厚,单层多核柱状细胞消失,腔内只含琥珀色胶状物质。交配期(10~ 11 月份),囊腔膨大,囊壁变薄,背部近交接处出现“凸”或“丁”字型突起;相应地,腹囊腔内亦出现含角质层褶皱。精子塞是三疣梭子蟹成功交配的特征,是雌雄梭子蟹共同作用的产物,由雄性基质、雌性分泌物、精子塞不定部分和精子塞半透明部分 4 种物质组成;精英仅存于雄性基质中。三疣梭子蟹的精子塞在不到 2 个月的时间内消失殆尽,并不能保护和滋养精子。背部突起对调控纳精囊容积起主要作用,其形成与消退与精英运输关系密切。交配后期(12 月至翌年 3 月),纳精囊皱缩完全;裂解完全的精英在背腹囊腔交接处集中,最后贮藏在腹囊腔内,为后续受精做好准备。纳精囊与卵巢关系紧密,进化上可能有重要意义。纳精囊与卵巢发育相联系,可以更好地反映三疣梭子蟹的资源动态。

关键词: 三疣梭子蟹;纳精囊;精子塞;卵巢;组织学

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Structure and Content of Spermathecae of *Portunus trituberculatus* from East China Sea

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Abstract: This paper describes the morphology, structure and content of the spermathecae in *Portunus trituberculatus* and the its corresponding relationship with ovary by analyzing samples collected during 2005– 2006 in East China Sea. In pre copulation period, the wall of the spermathecae was thin, but the lumen had been partitioned into two chambers, dorsal and ventral (Apr– Jun); Then the spermathecae began to shrink and the wall became relatively coarse while the mucosa developed secretory stratum (Jul– Sep); Finally, the wall evidently proliferated, while its polynuclear columnar epithelium degraded completely. There was nothing but one jelly like matrix existed in the lumen as revealed by the HE staining. In copulation period (Oct– Nov), the lumen extended significantly due to the fact that spermathecae received much male material and thus the wall became thin. Moreover, the dorsal part developed many protuberances that much like the Chinese character “凸” or “丁”. Correspondingly, the ventral part also developed a few folds. Sperm plug, consisting of four matrixes: MM, FM, APSP, TPSP, formed in the mating

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