

Redescription of the marine scuticociliate *Glaucanema trihymene* Thompson, 1966 (Protozoa: Ciliophora): life cycle and stomatogenesis

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Abstract

The transformation from trophont to tomite, morphology, and stomatogenesis during asexual division of the marine ciliate *Glaucanema trihymene* Thompson, 1966 were studied using protargol and Chatton–Lwoff silver nitrate impregnation. An improved diagnosis for the genus *Glaucanema* is suggested: Parauronematidae with polymorphic life cycle comprising trophont, tomite and cyst: buccal apparatus dimorphic, membranelles 1 and 2 closely opposed in trophont while well separated in tomite; paroral membrane uniform, extending anteriorly to midway of membranelle 2; single caudal cilium present; conspicuous glabrous frontal plate. Morphological redescription and stomatogenetic studies were made for *G. trihymene*. Stomatogenesis in *G. trihymene* is characterized by: paroral membrane and scutica in the opisthe originate from the anterior part of the parental paroral membrane; membranelles 1 and 2 in the opisthe derive from the posterior part of the parental paroral membrane; the major part of the proliferated scutica develops into membranelle 3 with only a small part comprising several kinetosomes joining in the formation of membranelle 2. Several stages of the transformation from trophont to tomite were also observed. This process starts from an anarchic field, which originates from the whole parental paroral membrane. These develop into two primordia that generate the paroral membrane and three new membranelles, respectively. The three parental membranelles are resorbed or join in the formation of the new membranelles, while the scutica is retained and does not take part in the transformation. The genus *Urocryptum* Pérez-Uz & Guinea, 2001 is considered a junior synonym of *Glaucanema* and *U. tortum* is hence transferred to the genus *Glaucanema* as *G. tortum* (Maupas, 1883) nov. comb.

Key words: polymorphic life cycle, morphogenesis, tomitogenesis, classification, new combination, *Glaucanema tortum*