

## Diversity studies on *Thuricola* Kent, 1881, a poorly-known genus (Ciliophora, Peritrichia)

X. Hu<sup>1</sup>, and B. Lu<sup>1</sup>

*1. Institute of Evolution and Marine Biodiversity, & Key Laboratory of Mariculture, Ministry of Education, Ocean University of China, Qingdao, China*

Sessile peritrichous ciliates are a large assemblage of ciliates that have a wide distribution in aquatic and terrestrial habitats. Recent studies suggest that the diversity of this group of ciliates has been significantly underestimated. Unfortunately, the loricate sessilids have been largely neglected in modern taxonomic studies compared to non-loricate forms owing to various reasons. Members of the genus *Thuricola* are representatives possessing a protective barrel-shaped lorica. The present study investigates three species by protargol staining and analysis of SSU rDNA sequences for the first time. Based on their morphologic characteristics and habitat, they were identified as three poorly known forms, namely *T. obconica*, *T. kellicottiana* and *T. folliculata* respectively. *T. obconica* is characterized by possessing curved lorica and a single valve *in vivo*. *T. kellicottiana* is distinguished by two valves with a spine on the main valve, and a generally long internal stalk upon which the zooids sit. *T. folliculata* also has two valves but lacks a spine. The ciliature of the three species are basically accordant. The main features are characterized as follows: infundibular polykineties 1–3 (P1–3) relatively long and composed of three rows each; P1 bends twice and comprises three equally long rows; P2 ends near the second bend of P1; P3 converges with the end of P1, with its first row distinctly longer than other two rows. Silverline system typically in a *Vorticella*-pattern. Phylogenetic analyses based on SSU rDNA sequence data indicate that the three ciliates in this study are closely related and therefore they are collectively known as vaginicolids, clustering into two separate clades, along with *Usconophrys* sp., which may suggest that the family Vaginicolidae is non-monophyletic.