



A new freshwater peritrichous ciliate from Harbin, China, *Epistylis lalinensis* n. sp. (Sessilida: Epistylididae)

GUILAN QI^{1,2}, XINLU SHI^{1,4}, GUIJIE LIU¹ & XIAOZHONG HU³

¹ Hangzhou Key Laboratory for Animal Sciences and Technology, School of Life and Environment Sciences, Hangzhou Normal University, Hangzhou 310036, China

² Department of Biology, Liaocheng University, Liaocheng 252059, China

³ Laboratory of Protozoology, KLM, Ocean University of China, Qingdao 266003, China

⁴ Corresponding author. e-mail: shixl56@163.com / fax: 8657128865333

Abstract

A freshwater peritrich ciliate, *Epistylis lalinensis* n. sp., was collected from Lalin River, Harbin, China, and its morphology, infraciliature and silverline system were investigated based on living and silver-impregnated specimens. The new species measured $125\text{--}187 \times 31\text{--}47 \mu\text{m}$ *in vivo* and is characterized by having green-coloured endoplasm containing symbiotic algae, single apically located contractile vacuole, one-layer peristomial collar and slender body shape. The C-shaped macronucleus is transversely located. Three equally kineties in polykinety 3 parallel to each other. Number of silverlines between peristome and aboral trochal band, 117–145; between aboral trochal band and scopula, 50–68. Comparing most other congeners, circular fibers of this species composed of internal and external layers.

Key words: *Epistylis lalinensis* n. sp.; freshwater peritrich; infraciliature; morphology

Introduction

The genus *Epistylis* Ehrenberg, 1830 includes a large number of species from marine, limnetic and terrestrial habitats, commonly identified by their colonial habit; noncontractile, regularly dichotomously branched stalk; well-defined peristomial lip, and less than 3 turns of peristomial cilia (Fernández-Leborans and Tato-Porto 2000; Foissner *et al.* 1992; Kahl 1935; Ma & Overstreet 2006). Among them, only *Epistylis chlorelligera* Shen, 1980 has a green colored endoplasm containing symbiotic algae (Shen 1980). During a recent survey of freshwater ciliates in northern China, another green *Epistylis* was found. Subsequent studies demonstrated that it represents a new species. A detailed description of its living morphology, infraciliature, silverline system and contractile fibers is presented here.

Materials and methods

Specimens were obtained from the shell of snail (*Bellamya* sp.), collected from Lalin River (45°05' N; 120°03' E), Harbin, China, in April 2003 and October 2004. Observations of living organisms were carried out using both bright field and differential interference contrast microscopy. Staining with protargol was done according to the method of Shi and Frankel (1990) to reveal the infraciliature. The silverline system was revealed by the dry silver nitrate method according to Song and Wilbert (1995). Drawings of stained specimens were made at 1,250× magnification with the help of a camera lucida. Drawings of live specimens were