



## First record of *Epistylis plicatilis* (Ciliophora: Peritrichia) attached to *Pomacea canaliculata* (Mollusca: Gastropoda) in Southern Brazil

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### Abstract

A more complete morphological characterization of *Epistylis plicatilis* Ehrenberg, 1831, a colonial peritrich epibiotic on the gastropod *Pomacea canaliculata* (Lamarck) in two freshwater environments in Southern Brazil was provided in the present study. The colonial sessile *E. plicatilis* possessed elongate zooids that range in size *in vivo* from 105.0 to 187.5 µm in length and from 25.0 to 52.5 µm in width. The cell had a single contractile vacuole located near the peristome. A “C-shaped” macronucleus lay in the middle of the cell. Colonies of *E. plicatilis* had up to 100 zooids, but the majority possessed 10–20 zooids that were similar in size. The oral ciliature revealed by the protargol staining technique consisted of an outer haplokinety and an inner polykinety that performs approximately 1 ½ turns around the perimeter of the peristome before entering the infundibulum. Three infundibular polykineties each consisting of three rows of kinetosomes were identified. This is the first record of *E. plicatilis* in Brazil.

**Key words:** epibiosis; ciliate; gastropod; peritrichs; *Epistylis*

### Introduction

Sessile peritrich ciliates are commonly found attached to a variety of organisms in marine, estuarine and freshwater environments. Living hosts often constitute a suitable attachment site for peritrichs and other sessile organisms because the currents of water passing by the host can supply the epibionts with food particles and facilitate the removal of waste material (Felgenhauer & Schram 1978; Wahl 1989). Crustaceans and mollusks commonly serve as substrata for peritrichs, and several studies have focused on these relationships (e.g. Fenchel 1965; Clamp 1973, 1988, 1994; Green 1974; Foster *et al.* 1978; Nagasawa 1986; Basson *et al.* 1999; Van As *et al.* 1998; Green & Shiel 2000; Hu & Song 2001; Botes *et al.* 2001; Utz & Coats 2005). Despite the knowledge about the occurrence of peritrichs colonizing living substrata, the majority of the studies focusing on this subject did not identify the epibiont to species level.

Species identification in peritrichs may be difficult and time consuming due to incomplete or superficial descriptions and redescrptions (Leitner & Foissner 1997). When working with peritrich epibionts, precise species identification will be valuable to develop studies emphasizing species composition, or host specificity, and to investigate seasonal occurrence of epibiosis because it allows temporal and spatial comparisons among different aquatic environments.

The genus *Epistylis* Ehrenberg, 1830 contains approximately 100 described species (Corliss 1979), most of which are believed to live as epibionts on crustaceans, insects, rotifers, and aquatic plants in marine and freshwater environments (Sládeček 1986). Most species of *Epistylis* were described based on very few morphological characters that were observed *in vivo* (e.g. Kahl 1935; Precht 1935; Nenninger 1948; Fernández-Galiano & Carrascosa 1989), and some of these descriptions failed to mention the number of colonies or zoo-